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THE PLACE OF THE NUTRITION WORKER IN THE HEALTH PROGRAM[1]

BAILEY B. BURRITT

General Director, New York Association for Improving the Condition of the Poor

The New York Association for Improving the Condition of the Poor, which is engaged very largely in carrying on public health activities, believes that the nutrition worker has a very real contribution to make in the health program. It is not a recent convert, either, in this matter, as evidenced by the fact that it employed the first visiting nutrition worker in New York City in 1907 and has had nutrition workers on its staff from that date to this, its Nutrition Division now consisting of nine workers. The longer it is engaged in health work the more it finds nutrition or, shall we say, defective nutrition playing an important part in disease and sickness, and the more emphasis it is forced to put upon good nutrition as a preventive force.

Tuberculosis and nutrition. Tuberculosis is one of the major factors that we have to deal with in the health problem. We are told by the tuberculosis experts that presumably over 90 per cent of all of us are infected with tuberculosis. Our hope of preventing a breakdown through such infection lies, in part at least, in the possibility of keeping the body in good physical condition, in building up a resistance adequate to overcome the slight doses of tuberculous infection that almost inevitably occur. We have appreciated all along, to some extent at any rate, that good nutrition plays a very important rôle in making this resistance adequate, but the war with its large amount of under-

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feeding has given new impetus to the importance which nutrition plays in the prevention of this disease.

Nutritional defects among children. The A. I. C. P. is dealing in an intimate way with the health problems of a population of 35,000 people, chiefly Italians, in a congested area of New York City. It has, as a part of a systematic effort to deal with the health problems of the children of this area, examination clinics for the examination of presumably well children, that is, that group of children for which there is no provision for medical examinations in the average community. As a result of an examination of a large number of children, chiefly preschool, we have found that, after defects of the nose and throat and teeth, defective nutrition ranked highest in the number of defects found. Thirty-eight per cent of these children were classified as having defective nutrition. This meant that they showed some or all of the following symptoms: subnormal weight for height and age, poor general musculature, the presence of subcutaneous fat, pale color, redness of mucous membranes. For these examinations the children were stripped, a fact which adds to the value of the diagnosis, since more adequate observation was possible.

One might attack the health problem of this area until doomsday without scoring anything like success unless one recognized that the health problem of this community is tied up with the family food habits. We are confronted with the nutritional problem in our health work in the diet of the mother before the birth of the child. We have it with us immediately after the birth of the child in the feeding of the young infant and its mother. We have been all too prone to think that we can ignore a child's diet after he is two years of age, but we are learning that we ignore it with disastrous results. Bad food habits have their origin here and are difficult to correct later on; but, what is still more serious, they are very likely to have left in their train impaired physical conditions with permanent results.

Teeth and nutrition. Our examining physicians have dwelt at length on defective teeth and we are all of us conscious of the size of the problem which we have to wrestle with in defective teeth. We no longer try to deal with tuberculosis and tuberculous families seriously without attempting to put their teeth in some condition of repair as a necessary factor in the success of our treatment. We are finding that we cannot deal most successfully with defective nutrition in children with decayed teeth and pus producing conditions in their mouths. We have still much to learn, especially we laymen, with regard to the relation between

nutrition and tooth decay, but even the layman is able to discern that our most enthusiastic dental leaders—leaders in whom we have had a great deal of confidence—are abandoning their slogan that a clean tooth never decays, because there seems to be some evidence that tooth decay may have its origin in inadequate diet, or inadequate nutrition. We suspect that even the expert himself feels that there is a pitiful lack of accurate knowledge with regard to the relation between diet and tooth decay and we are encouraged by the fact that some steps are being taken, notably in Boston itself, and in other places perhaps to a less degree, to fill in this important gap of information. Meantime, there is no one, I think, who will deny that if we really want to prevent tooth decay we must work along nutrition lines as well as along lines of cleanliness and sanitation of the mouth. I sat one whole evening, recently, in a small group of dental experts who were considering the essentials of a dental prophylactic program and it seemed to be the consensus of opinion of this group that, if you could do but one thing in a given community looking toward the prevention of tooth decay, you had better begin with educating your community in the importance of diet and its relation to good teeth.

Now, I have been concerned thus far in citing, more or less at random, facts which indicate the importance of the nutritional factor in the health program. Without being more precise and without going into greater refinements, I am sure that I shall have unanimous agreement with me in declaring that attention to nutritional problems must stand out prominently in any successful health program. To overlook such attention is to overlook one of the essential factors. One may not be able to say that, given good nutrition, good health will result, but one can at least say that without good nutrition good health is impossible.

Ignorance of suitable diet the problem. Now, if we accept this statement of the situation, if we believe without reservation that we must perforce deal with nutrition in our health program, what are some of the ways to do something about it? In the first place, let me indicate that each added year of experience in dealing with health problems, among the group of the population in which the income range is lowest, convinces me the more that, even in the lower income range group, ignorance of suitable diet is a more important factor than inability to purchase suitable diet. Poor nutrition is obviously aggravated by inadequate income, but a very high percentage of our nutrition disturbances and defects can be remedied, I am convinced, by educational methods. I am a firm believer in good incomes as essential allies in

the public health field, because good incomes mean, as a rule, better housing conditions and, on the whole, better diet. It is much more apt to mean more adequate housing conditions than it does mean better diet, however, as a considerable degree of ignorance about suitable feeding in families with better ranges of income is all too nearly universal. We must, therefore, continue to press for adequate incomes for workingmen as a means to good health and improved civic and economic usefulness. But let us not forget, while we are urging this, that at the present time lack of income is not as serious a factor in nutritional disturbances leading to ill-health as is ignorance of suitable diet. Education is a slow, difficult, and expensive process, but it is, nevertheless, much swifter, much easier and much less expensive than is the process of readjusting economical conditions. It is a much more hopeful line of immediate attack, and this advantage should, I believe, be pressed to the utmost.

Schools the best medium for overcoming ignorance. But, how shall we educate? Obviously, the school should play a very important rôle in the educational process. If nutritional work does play the part that we think it does in the health and, therefore, the efficiency of the community, then we should not be content with the gains which we have already secured in the emphasis upon this problem in our public schools. A careful examination of the curricula of our colleges and universities would still, I believe, yield very disappointing results, showing, as it would, such a large percentage of college graduates successfully completing their course without anything like adequate serious consideration of the problems of nutrition as they affect every day life. If education is a fitting for life, then is it not clear that we must include in it adequate information and adequate consideration of the problems of diet in their relation to common health and common efficiency? It may even be that it is as important for students to know concretely what Sherman has said about the diet of a child as it is to know the law of the sine and the cosine, or as it is to have correct information as to the evidence distinguishing the paleozoic from the mesozoic period of geological history. Without, however, belittling at all the importance of mathematics or geological history in the college curriculum, I am willing to defend the thesis that the average college curriculum does not give the consideration to nutritional problems that their relation to life warrants. It ought not to be possible for students of colleges to go out from the institution without having dealt seriously with this practical problem.

I speak of the college first, although I realize that the elementary school is of the greatest importance in our consideration, because of the fact that such large numbers of our people grow up to be citizens without getting further than the elementary school, but until we get adequate recognition of the importance of the nutritional factor in our college education, we shall not get it in our high school or secondary education, nor in our elementary education. We have made much progress, it is true, in the use which we have made of our elementary schools in the nutritional educational problem. A larger percentage of the children graduating from our schools each year are knowing at least something about the elements of food problems—what to eat, how to eat, how to prepare it. But we must rely on the special teacher of nutrition, the regular teacher, the medical examiner, and the school nurse to make at least the rudiments of this information universal. The next generation will be a healthier one because of the fact that this generation of school children has more knowledge of this kind than the preceding generation. But this process which has begun so well must be put ahead a notch each year for some years to come, if we are to realize the full advantages and possibilities of food education through the schools.

Institutions other than schools important. This is the greatest educational opportunity and this should have first emphasis. There is also a very definite place for the nutrition worker in the public health program in the assumption of the responsibility of guiding the nutritional work of hospitals, sanitoria, children's institutions, Boy Scout, Girl Scout and other camps, hotels and restaurants. There are now numerous workers in this field, but the opportunities in this work have not, in my judgment, been anything like fully realized. The educational possibilities are very real and considerable, and the development of more workers in this field with still larger vision and capable of real leadership in thought and action will make these agencies contribute an ever increasing share in this process of overcoming nutrition ignorance.

The function of the field worker. There are, however, other important supplementary means, of educating the public to the importance of nutritional factors in health problems, that should be pursued simultaneously with our efforts to secure additional educational work through the medium of our schools and universities, and through our hospitals and other institutions. We are making rapid progress in this country in the direction of carrying health education into the homes, to reach the child of pre-school age, to reach parents, and to deal with many problems which the school as such cannot deal with. The number of

voluntary health organizations is rapidly increasing. The total volume of work being done by voluntary health organizations is increasing in an even greater degree and the work that is undertaken by municipal, state, and national health authorities is increasing in a like manner. The field workers, whether it be in rural district, in small community, or in our larger cities, are increasing in numbers with great rapidity. They are being recognized as the hopeful medium of successfully carrying educational health work into the home in such a practical way that it affects the daily life and routine of the individual family and the members which make it up. The field worker may be a trained nurse, a practical nurse, a lay-visitor, a nutrition worker, a visiting school teacher, or some other kind of field worker. Obviously, here is at once an opportunity and a responsibility for the nutrition worker. It is clearly our business to make the consciousness of the importance of this problem a part of the equipment of every field worker of whatever nature, and we should not be content with that; we must, in other words, follow up making them conscious of the problem by providing them with the necessary tools in the shape of the essential information which will make it possible for every field worker to be an active educational agent in the nutritional field. Wherever, therefore, there is any body of field workers, the nutrition worker should be recognized as an essential part of such a staff. If the staff is very limited, it may be that the nutrition worker per se will be necessarily confined to one competently trained supervisor. In this case, this nutritional supervisor would make it her business, by group talks, by daily contacts, and by intimate working with each field worker, to put each worker in possession of the necessary knowledge and methods which will make it possible for her to be an effective instrument in nutritional education. This kind of counseling supervision would, of course, be supplementary to and not interfering in the slightest with the technical, professional supervision; that is to say, if the field workers are a group of nurses, for example, the supervising dietitian would act in the capacity of an expert counselor in training and supervising the staff in so far as their work should relate to nutritional problems. She would work in the closest degree of cooperation with the nursing supervisor herself and would be an able ally to the nursing supervisor, making her own work function more effectively. If, on the other hand, the staff of field workers is sufficiently large, it is more than probable that trained field workers who would give attention to nothing but nutritional problems would be advisable, especially if the field force, whatever it may be, is devoting itself to preventive health problems.

This is exactly the case in the staff of the A. I. C. P. In one of the local pieces of work which this organization is doing, it has some twenty field workers. Six of these are trained dietitians. All of the staff are working on preventive health problems. An effort is made to make each field worker, be it the nurse, social worker, or dietitian, a medium of nutritional education in the individual home, and the nutritional supervisor works with this end in mind with the nursing supervisor. But some families and some individuals present special nutritional problems. The nutrition worker as such assumes full responsibility for these problems which require more intensive dealing with nutritional factors. In this way, we believe we have welded together into an integral whole a field staff that is dealing effectively with preventive health problems, and we are perfectly certain that this combination of staff is more effective than would be a staff made up either of all nurses or of all dietitians.

This, it would seem to me, offers the most hopeful suggestion for fixing the appropriate place of the nutrition worker in the public health program. The adaptation of this plan to varying conditions and varying circumstances in the public health field, wherever there is a staff of field workers, presents rich opportunities for dealing with the health problem in a well rounded way and in such a way that the nutritional aspects of it assume something like their relative importance.

The physician's rôle. The physician, of course, should not be ignored in such situations. My remarks have assumed the physician as the corner stone of the health program, the function of the trained nutrition worker corresponding quite largely to that of the trained public health nurse. The physician is indispensable in examining children and determining what children are deviating from the nutrition normal and in advising what is needed. The main task of getting over the actual educational problem in the home will obviously rest primarily, however, on the nutrition worker.

Responsibility of the nutritional training school. It should be added, however, that the nutritional training schools themselves have not as yet been able to plan adequately to provide the public health field with workers fully trained for this kind of work. In the first place, it has not been possible for them to give anything like adequate field training of any kind to nutrition workers. In the second place, the cases are still more rare where a field training has been worked out in such a way that much attention is given to individual family problems as such. In other words, a nutrition worker for educational nutritional work in

the individual home is not prepared for successful work no matter how thorough may be her theroretical training, even though that theoretical training include adequate consideration of individual family problems, until she has had some training and experience in wrestling with actual, practical field problems that go with visiting and working in the family of Mrs. O'Gorman and Mrs. DeLucia. This kind of training is all too relatively rare. It is absolutely essential for nutrition workers contemplating field work and would at the same time make the work of nutrition workers in public schools more effective.

Summary. If, now, in conclusion, I were to sum up this brief paper, I should say that the nutritional factor is a large and essential factor in the public health program. It has not yet received the recognition, however, in practice, which its importance suggests. Its chief obstacle to overcome is ignorance and its function is, therefore, largely educational. The school, including the elementary school, the secondary school, the college and the university, is or can be the most important instrument for overcoming universal ignorance; the hospital and special institution is another potential though not fully realized educational force, but the important supplementary agencies of public and voluntary health organizations must not be overlooked as serious factors in this situation. The nutrition worker should be an element in every staff of teachers or of field workers, and our training schools must see to it that more adequate provision is made for field training of nutrition workers with this in view.

PHYSICAL AND BIOLOGICAL CHEMISTRY IN THE SERVICE OF HOME ECONOMICS

AGNES FAY MORGAN

University of California

Home Economics education, in its gradual emergence from the condition of a dim social idea into an orderly body of applied science and art, has passed through several uncertain stages when the whole structure seemed toppling down to the trade school level. Whatever importance the trade school training may assume in certain phases of home economics education, it seems now to be assured that, in the higher

institutions, the university idea must prevail in the main, and that, as in agriculture, the foundation and all the superstructure of work along these lines must be chiefly the fundamental sciences and their applications. There need be no longer a question as to the adequacy of the latter without the former, in spite of the plausible and popular uproar that demands practical applications instead of theory, from the first moment that science is approached.

The scientific foundations of home economics. The fundamental sciences, in home economics as in many other fields, are physics and chemistry first, and next biology, unless indeed we go with the modern mechanists far enough to see in biology only a more complicated chemical dynamics. Home economics in all its phases deals with life and living: origin, nurture, preservation, and enjoyment. It must deal with things in so far as things are essential to human life: food, clothing, shelter. It must deal with forces, in so far as forces touch human living: light in the house and street; heat as a product of the human body, or as a means of comfort in the house or in the preparation of food; electricity as it furnishes light and heat for these purposes, and power to save the labor of human hands; and, of course, chiefly the free energy of substances as it controls the direction and extent of the reactions studied, and the production of other forms of energy. We are thus involved at once with the ideas and the materials of physics, chemistry, and biology. Of these three divisions of the great body of science, we may make two combinations, both of them classed usually under the division of chemistry, which shall contain practically all the materials, theories, and more than anything the assumptions, which we need to build up that increasingly homogeneous collection of the scientific teachings contained in *home economics*. These two combinations are physical and biological chemistry.

It may indeed be going too far at present to include all the foundations of the scientific aspect of home economics in these two divisions of chemistry, but it is easy to foresee a day when this assumption may be justified. Those portions of the subject matter which are now classified under the headings physiology, biology, and bacteriology, are concerned primarily with the dynamic phases of those bodies of learning, and hence may readily be included in the physico-chemical field. For example, we are interested specifically in the physiology which deals with secretion, digestion, absorption, excretion, and metabolism. But secretion, absorption, and digestion have resolved themselves into problems of colloids, osmotic pressure, surface tension, and catalysis. The action

of enzymes is reduced to a question of mono- or poly-molecular speed of reaction, hydrogen ion concentration, chemical equilibrium, and mass action. Marshall, Henderson, and Loeb, in their recent work, make contributions to physical chemistry almost as much as to physiology.

The study of metabolism is of course the function of biological chemistry, perhaps its most important if not its sole cause for being. In home economics we are concerned also primarily with the metabolism of man, and in particular with his metabolism in its relation to diet. The pathology of metabolism is quite as interesting to us as to the medical men, for we are continually on the lookout for credible connections between the character of food and conditions of health or disease, or even of shades of well-being. A knowledge of the causes and cure of scurvy, beriberi, and pellagra are part of the mental equipment of every student of dietetics. The confused condition of the biological chemist's information on the metabolism in rickets, osteomalacia, anemia, and gout is reflected in our tentative dietetic recommendations for the treatment of those diseases.

There is beginning to be apparent to the home economics investigator, interested in dietetic therapy, a distinct field for research covering the questions of the effects of varying methods of food preparation upon ease of digestion, as well as upon certain of the metabolic disturbances. Sporadic evidences are accumulating that other diseases than those commonly ascribed to diet deficiencies may be amenable to dietetic treatment. The lately published work of Dr. Ralph Pemberton concerning the rôle of carbohydrate feeding in the causation of rheumatoid arthritis, if confirmed, may be cited as an example. Unfortunately, not many home economics departments in the universities are yet accustomed to coöperate with the medical schools and hospitals, so that the opportunity for the prosecution of work in this fascinating field is limited.

With this variety of application of biological chemistry may also be classed experimentation in the accurate feeding of infants. It may be difficult to say wherein lies the dividing line between the chemist of the home economics department, interested in metabolism because she must recommend practical feeding measures, and the chemist of the physiology department or the research institute, interested in the same field because of the exalted curiosity of pure science, or the chemist of the medical school, who must be ready to manufacture therapeutics for his practicing brother. In the artificial feeding of infants, the diet specialist finds a well-tilled field ready for the sowing of the seeds of

public education. In this, as in diabetes, is exemplified the meager development of the theme of quantitative feeding. She is now seizing upon the opportunity of applying those methods worked out by the biological chemists to the diagnosis of cases of disordered digestion and metabolism in infants, and to the alleviation of such conditions through change in feeding. It is her function, as a teacher, to reach the numerous borderline cases of this kind which are never reported to the physician. She may also occasionally be found capable of offering technical assistance to the practitioner in these matters.

But it is in the field of the normal nutrition of growing children and adults that the home economics specialist and teacher finds the richest rewards for her study of biological and physical chemistry. The fascinating mysteries of the intermediary metabolism of the foodstuffs, the creatinine and creatin quandary, the sulfur and nitrogen partitions, are important questions in her mind, because their solution may affect the prevailing dicta as to feeding. Karl Thomas' and Hindhede's work, as well as the experiments by Osborne and Mendel, Folin, and McCollum, are most vital to home economics because their reconciled conclusions may point the way to a rational protein proportion and vitamine content in the every-day meals of the people. Such applications of these and similar findings to the feeding of the nation, as suggested by Max Rubner in his paper before the International Hygiene Meeting in 1912, must make up the content of our home economics nutrition courses, if they are to fulfill their explicit social purpose.

The results of calorimetry, direct and indirect, are based upon the physical and chemical principles expressed in the first and second laws of thermodynamics and the law of definite proportions. The determination of the food expense of work, of the stimulating expense of food, called by Rubner the "specific dynamic effect," of the energy yielding value of foods, are all dependent upon these same laws. The dietitian who must interpret these results in terms of the serving of every-day meals in the home and the institution cannot do so intelligently unless she is familiar with these fundamental laws of physical chemistry. For rule of thumb applications are quite as unsatisfactory in the home economics world as in the medical profession, and of late perhaps no more common.

A plea for research in the home economics laboratory. The home economics investigator should now begin to make her own particular contribution to this body of information collected under physical and biological chemistry, and connecting the food of man with his physical salva-

tion. This contribution is partly a more extended application of well known facts to practical feeding, and partly original investigation of: (a) chemical and physical changes brought about in foods by variations in cooking processes, as well as (b) the more numerous digestion and metabolism experiments concerned with the same changes. The defect in our calculations, due to the fact that practically all our data as to food composition applies only to raw foods, has been only partly remedied by such work.

Wherever this spirit of original contribution is making its modest beginnings, the principles and the methods of physical and biological chemistry are continually resorted to, as the means of attack. The alignment of four simple studies of this kind carried on by students at the University of California may be used to illustrate this point.

1. An investigation of the conditions which control the amount of absorption of fat by fried foods. In attempting the solution of this problem the technique of cookery was needed for the formation of a suitable constant dough for the doughnuts used as the specific fried food; the technique of quantitative analysis in the sampling and fat extraction of the raw and cooked material, and in the determination, before and after frying, of the physical and chemical constants of the four varieties of fats used. Some of this work has been published.[1]

2. The isolation and purification of certain proteins from a certain variety of California almond. The procedure of the biological chemist, in this case chiefly that of Dr. T. B. Osborne, was imitated in the preliminary work of fat freeing, extraction, and precipitation. The ultimate aim of this study is the preparation of pure almond protein to be used in feeding experiments similar to the work of Cohnheim, Kauffman, and Thomas. Some results have already been published.[2]

3. The relation between certain controlled conditions and time of roasting and the loss of nitrogenous extractives in beef.

The relation between weight, surface, oven temperature, kind of pan, degree of cooking, and loss of total weight, of fat, and of nitrogenous extractives were determined by the use of the usual biochemical methods of analysis. The calibration of thermometers used, and determination of heat conduction by various metals are examples of the use of physical methods.[3]

[1] Morgan, A. F., and Cozens, E. R.: Jour. Home Econ., 11 (1919) pp. 394–402.
[2] Morgan, A. F., and Heinz, A. M.: Jour. Biol. Chem., 37 (1919), pp. 215–222.
[3] Nelson, P. Mabel: Thesis, M. A., University of California, 1916.

4. The comparison of the Van Slyke-Bosworth titration method for the acidity of milk with the electrometric measurement of hydrogen ion concentration in milk. The progress of lactic acid production was measured by both methods every day in samples of milk kept at two different temperatures—ice-box temperature, 2 degrees C., and "cooler" temperature, 15 degrees C. In this case, physico-chemical methods were used exclusively. The titration of these samples with the hydrogen electrode in the manner described by Professor J. H. Hildebrand[4] has shown some interesting phases of milk souring.[5]

Similar problems might be multiplied almost indefinitely.

So dependent is the development of the food phase of home economics upon that of biological chemistry that it is frequently a matter of delicate adjustment to decide in which field a given subject or investigator may be said to belong. If it is possible to speak of an application of a science which is itself an application, then the human nutrition work in home economics is an application of biological chemistry. It may be more academic to accord home economics food work the honor of constituting a single division of biochemistry, that is, the division Foods and Nutrition. The term nutrition alone apparently does not convey the entire content of this phase of home economics, for nutrition concerns itself solely with the food that has been ingested. Home economics is equally concerned with the processes undergone by that food in its culinary preparation. The army organization during the war recognized the importance of this division by establishing a Food and Nutrition Division of the Medical Department of the army.

After all, the social purpose of home economics education is of vastly greater importance than its technical development. This new phase of education came into being in response to a social and economic need to which biological and physical chemistry can never minister. If we continue to see the departments of medicine train men in the technical work of nutrition and metabolism, as well as make the therapeutic and hygienic applications of their results, the scientific development of those subjects will continue to progress favorably. But the widespread and continuous use of these dicta among the people can be brought about only by the persevering and universal training of young women. In the universities we must develop critical and penetrating thoroughness in the leaders of this movement by means of the technical work of physical and biological chemistry applied to feeding problems.

[4] Hildebrand, J. H.: Jour. Amer. Chem. Soc., 35 (1913), pp. 847–871.

[5] Mills, Margaret H.: Thesis, M. A., University of California, 1916.

THE HOME PROJECT AS A METHOD OF TEACHING HOME ECONOMICS

TREVA E. KAUFFMAN

Supervisor of Home Economics, State of New York

The Home Project as applied to Home Economics Education may be defined as a piece of work to be done outside of school hours directly related to the subject matter of the course of which it forms a part. This piece of work should embody many of the principles of the subject taught, should present a genuine need to the student, or a problem to be solved, should involve a specific plan of procedure, should include a report of details, and should be supervised. It may be further defined in the terms of: (A) Objective, which is the contact of the student with home problems under conditions as nearly normal as possible, for the purpose of supplementing the school's instruction. (B) The place, the student's own home (preferred), or other homes, or places approximating home conditions. (C) Characteristics such as: 1. Genuine need, apparent to the student. 2. Student's preparation for attacking the problem. 3. The problem to be solved should have the following educational values: (a) standards of manipulation, (b) initiative, (c) managerial ability, (d) results which can be evaluated.

From this explanation and results attained so far by the use of this method, the advantages may be stated as follows: First, it presents a most ideal way in which to teach home economics if we desire to have our teaching function immediately, and bring about worth while results; second, it furnishes a splendid way in which to teach the profession and vocation of homemaking (if that is our desired result); third, it brings about a definite appreciation of the subject both to the teacher and student; fourth, it permits the use of the real equipment, "the home," in place of our more or less artificial laboratories at school; fifth, it brings the teacher in contact with the problems of the homes in the community and then she may plan her course according to the needs she finds; sixth, it offers the opportunity for closer coöperation between school instruction and real life problems in the home and community.

From the educational standpoint, the home project method meets the most important work of education, which, we are told by several educators, is "the deliberate forming of useful habits."

It seems that many home economics teachers have been trying for a number of years to bring about such results as this method has

accomplished. Then why, as teachers, should we not investigate the method, and at least test it out if at all possible in our schools?

The principles involved in a home project, as I see it, are simple and workable. First, the project may grow out of the instruction given at school, or parallel it, or the instruction may grow out of the project. The latter has not been used to such a large extent as the former. Second, the place for the home project is the student's own home. If this is not possible other homes may be used, or places approximating home conditions, such as a hospital, school lunch room, day nursery. Third, the amount of time required for a home project depends largely on the character of the project to be solved. A number of states have agreed that an average of three hours a week extending over three to six months, or the entire school year, or the use of summer months alone may be used. Of course this does not mean that one project would be continued over this time unless it was one of extensive solution, but a number may be solved. If the summer months are used, it involves a twelve-month teacher; this has many advantages to the community.

In solving the project, it is realized that time means practically nothing; it is the interest of the pupil in the solving of real life problems, by the pupil, that counts. However, to evaluate results and reach standards, some time requirement must be adhered to. This time requirement should never be imparted to the pupils, for it has been found in many cases that time is the only thing for which the pupils work. The approach to a home project is possibly the most vital part of it. In order that the project may count in the life of the pupil it must be one of interest to the pupil. Therefore, the teacher must be intimately acquainted with her and must know the home and home duties of the pupil. In order that the pupil may develop initiative and solve the problem, she must be properly supervised by the teacher through home visits; therefore the teacher must be admitted to the home.

The first approach, that of being intimately acquainted with the pupil, will come about through the work in school. The second and third, that of knowing home conditions and entering the home, will probably be more difficult to accomplish. The teacher should make a survey of the homes in the community, no matter whether the home project method is used or not. This will enable her to build her course accordingly. By giving a tea or party, especially inviting the mothers of the pupils, and at this time talking over the home project, she can thereby familiarize the mothers with it; this will then give the teacher an opportunity to call in the homes of the girls, and further her knowledge of the home conditions and of the problems in that community.

Mothers' meetings or clubs may be used for this approach in the home, or a luncheon or supper served by pupils to different groups of mothers may be used. After this approach has been successfully made by the teacher, there will be practically no difficulty in making a selection of the project rightly fitted to the pupil.

A conference with each pupil should be held and a project selected with all the above points in mind. The purpose or aim, scope, plan for procedure, and tentative results should all be talked over with the pupils. An outline carefully evolved by pupil and teacher should be drawn up for the use of both. The teacher should watch carefully, so that the pupils will not depend too much on the outline worked out in the beginning. It should be enlarged and worked over, as the project progresses.

In order that the pupil may successfully solve the problems and progress, the project must be carefully supervised. This supervision may be done through home visits, conferences, reports weekly and final, and social gatherings at school and in the homes of pupils. The amount of supervision given by the above methods depends on the type of projects, the progress of the pupil, home conditions, and number of pupils working on projects.

Some states have found it best to have a weekly conference and report from the pupil, and a home visit once a month. Too much stress should not be laid on reports, but some system is necessary to carefully evaluate results. The number of projects one teacher can successfully supervise is still a debated question. Some states have found that one teacher can supervise a maximum of 40, others a maximum of 15.

The question of credit for home project work has not been so clearly solved as some other problems connected with it. Most teachers who have worked on this problem feel that some credit in addition to the school work should be given for the project. However, this additional credit should be added to the credit given for school instruction and should not be recognized as a separate count.

The types of home projects to be carried out by the pupils should be real home problems and may be classified as simple and complex. If the instruction given is that of a well rounded out course in homemaking, as it should be, whether of grade, high school, or college rank, the student should then work out projects in all phases of homemaking.

The age and the student's preparation for attacking the project must be considered.

A project may be simple or complex to a given pupil according to her background of experience. A simple project may be the preparation of some part of the meal, as the vegetables and fruit, or salads, desserts, meat, or potatoes, or a simple breakfast or a simple supper, studied from the family needs as to nutrition, cost, and efficient use of time. The preparation and planning of a dinner or three meals a day meeting the family's needs, redecorating and furnishing a room, or keeping the family accounts would be a complex project. The care and repair of the girl's own wardrobe may be a simple project; while the care and repair of the family clothing, or household linens, would be a complex project.

The teacher must be the judge as to when the project is finished, and whether the pupil has successfully solved or worked out the project.

Time, mere working, reporting, have very little to do with the real solving of the life problems in the end, and, as always, it depends on the teacher to successfully use this method.

I am afraid some are asking, "How can we as teachers of home economics in grades and high schools use this method, with our present organization which consists of a heavy teaching schedule practically all day, and the handling of as many as 100 or 200 pupils a week?" The answer is, of course, that the method can not be used under such conditions. Is it a wiser procedure to have more and better trained teachers, so that we may use this method to gain our desired results, than to continue with our present plan of reaching large numbers of pupils, giving some meager knowledge of some phase of home economics, and hoping that at some future day they will have an opportunity to receive more training? It is realized that it will take many years to bring into general use such a method, but I believe the method should be used now in many small schools, and may be used to some extent in some of the larger junior high schools.

It is the plan in many of our large junior high schools to give as many phases of home economics as possible each year in the alloted time. Each phase of the subject is taught by a special teacher. This plan is excellent, for no matter when a girl may drop out of school she has had some training in the all-around ideas, and not alone in one or two phases of the subject. In order to draw together all these various phases, and give them their proper use and relationship in the home, the home project method may be used in the ninth year. In many of these schools the equipment merely consists of foods and clothing laboratories; the home project would give us a natural setting for such

teaching. I also believe the home project could be used to an advantage, when amount of time given to home economics is reduced to such a minimum in school that only the fundamentals may be taught, with no time for practical work. Of course it would be necessary to have well trained teachers in charge of such work, teachers who have a vision of the entire subject.

REPORT OF THE SOCIAL SERVICE COMMITTEE

This report, organized from material presented by the Social Service Committee at the Annual Meeting of the American Home Economics Association at Swampscott, is submitted by Lucy Gillett, Chairman, as follows:

We already feel the need of special training for those who are going into Social Service work, but the work is as yet too new for the ideal training to have been evolved. The Social Service Committee felt that, during this formative period, those who are in the field might help to shape this ideal by telling where they have felt the need of more training to make them better fitted for their various duties. With this in mind, the Committee wrote to those who are known to them to be doing nutrition work in the social field, and have summarized the replies.

Invariably the answers have indicated the need of one of three, or a combination of the three following points: (1) Special methods which should show how to explain the application of scientific facts in a practical way to those less fortunate in educational opportunities; (2) a social point of view, or a better understanding of conditions in homes where the economic factor is very keenly felt, and a knowledge of the customs of various nationalities; (3) a better understanding of the underlying factors of defective nutrition and other diet diseases. The following summary of replies received from people in various parts of the country serves to illustrate these three points.

Reply after reply bears out the thought that social service work has a big problem in convincing and educating the untrained mind. One person writes: "The problem that has given me most trouble is how to get the parents to realize the seriousness of the undernourished child and to take necessary steps to correct conditions. Mothers persist in saying, 'Johnnie won't never be big and strong and no food will do it for he takes his small stature and peeked looks from uncle Bill.' 'I have always lived this way and I am strong and I guess it will be all right for Harry.' 'Tony won't eat oatmeal. You don't like it, do you, dear?' " This writer says that, although she is grieved at the ignorance of the mothers she is still more surprised to find how hard it is to make mothers conscious of the importance of well-known facts, and how difficult it is to get them to follow instructions. All those who have been working with these unfortunate women realize that the method used is quite different from that employed in teaching students. The student has been taught to follow instructions or to suffer immediate consequences; many years may elapse before the woman in the home will feel the ill-effects of neglecting the advice and council given. The student in the class has been trained to analyze a situation or to accept established facts and to

follow authentic rules; the woman in the home has been trained chiefly by tradition and experience. It is not only a process of educating alone, it is a problem of reconstructing long established habits.

Since child discipline is one of the most serious factors in malnutrition, social service problems involve an elementary knowledge of child discipline. The problem is complicated by the indirect method which must be frequently used. While nutrition work may be done through the mother or child directly, more often results must be accomplished indirectly through the mother, father, brother, or sister, or some friend or relative. It has been necessary to work out methods appropriate for the problem, and there is little doubt but that training in method for those going into the work would keep many from discouragement, make the work more effective, and save the work and themselves from much unfavorable comment. This would advance the work, and increase the health and efficiency of the community more rapidly.

Further reports, on the method of work and success in getting facts over, state that many cooking processes, as taught in our training schools, are too long and require too many utensils for practical use in homes where there are six or eight children, few utensils, less money with which to buy more, and only one pair of hands to do the work. Methods for the serving of meals have been found to be too complicated and lengthy for this same type of woman.

We often hear and are forced to acknowledge that a practical housekeeper may get better immediate results than a person well trained in theory but with no experience in social work. The methods of the practical woman are suited to conditions. There is a general feeling that the workers from the majority of our home economics courses throughout the country have not had enough training in the preparation and planning of inexpensive meals. Although the nutrition social worker realizes the need of giving in our training schools such methods as will fit the average, she wishes it were possible to teach the girls how to modify the average to fit the conditions below the average. The general plea is for more simplicity even for the average home, with a practical experience in putting theory into its simplified form; not less theory, but a more practical theory.

Another letter says: "All that pertains to the preparation of food is vital in the building up of family efficiency. To have proper food it must be cooked. To be cooked, the stove must be in proper shape. Stoves at best in many of the homes are poor but the worker should know how to make the best use of a poor article. One day one of our workers explained that Mrs. H's stove was 'no good' as she could not heat the oven. All that was needed was regulating drafts and dampers, but constant use of gas and electricity at school had not given this worker the proper background for meeting the situation. She lost influence with the family as well as with her co-workers." The families with whom social workers come in contact have not had and will not have for some time to come all appliances that indicate progress.

Those who have had experience in social work feel that home economics people going into families need training in case work. With this point of view there comes a definite conception of conditions and problems that are to be met. The most successful worker is the one who has the attitude of getting from a family as much as she gives, but this is a rare gift. It may often be acquired through training. Social service problems would become less difficult and more quickly remedied by introducing courses into the curricula of colleges and universities, whereby home economics students might work among people of very low incomes and where low standards exist. "There should be a course including a study of family life among wage earners. Budgets based on actual facts should be worked out for families on the border line of dependence. Those in the field realize very keenly how much harm may be done through a lack of understanding of home conditions." As one letter says, "Often a worker does more harm than good by antagonizing the family through a disregard of their personal and religious scruples, without even being aware of it, or through lack of appreciation of the difficulties under which the family is living or of their struggles

to exist. Those going into social service work should have some knowledge of racial habits and religious customs as well as food habits." To try to teach a Jewish family to use milk and meat in the same meal, or to cook them in the same dish is sure to meet with failure. Equally sure to meet with failure is the person who does not see the economic problem. One worker, who was sent to help a poor Italian woman to feed the undernourished children, began by saying genially, "I am going to tell you the secret of making use of your surplus cream." Whereupon the little girl, who was acting as interpreter, grabbed her mother by the hand and said, "My God, this ain't no place for us. She must think we are Asterbilts."

The following extract from one letter expresses the sentiment of them all: "It is most essential that the student have experience in field work to bring her into direct contact with the home in order to get a more comprehensive idea of what the needs of pupils are, thus enabling her to give in classes what will carry over into homes. I feel that a social service dietitian should have from three to six months of field work before graduation. Those in the field as they look back feel the disadvantage of inexperience. Both for the sake of the family and the worker they strongly urge the introduction into college and university curriculum such courses as will enable those going into field work in nutrition to know how to adjust the subject to families of varying incomes and nationalities."

The beginner often looks at nutrition in a narrow sense as confined to food alone. When a worker gets into the field she finds she can no longer deal with food without other health habits. In order to give food a chance to do its maximum amount of work there must be a proper amount of sleep, rest, exercise, fresh air and sunlight, and the work of the nutrition worker is not complete without proper emphasis on the establishment of such habits as will insure these. A neglect of this consideration is brought out in this letter from the supervisor of nutrition work in one of the social organizations, who writes: "Home ecomomics students come to us with insufficient instruction in personal hygiene, or if they have had the instruction they frequently fail to coordinate it with nutrition. From our point of view, a knowledge and an application of personal hygiene is just as necessary as a proper knowledge of food."

"Oh, if I only knew about the malnourished child and how to treat him," is another cry. "We are mighty glad to have studied so carefully the normal diet because we feel that this is fundamental, but we must know more about the child that needs special attention. At first I felt that my knowledge and judgment were self-sufficient in dealing with diet in all cases, but gradually I learned by experience, accompanied too frequently with disaster, that I must work hand in hand with the doctor. There are too many abnormal conditions, in which factors other than diet must be considered, to risk working without the constant advice of a physician. The nutrition worker should have a better understanding of symptoms of abnormal conditions and more practice in working in cooperation with the doctor."

Another worker has felt the keen need of working not only in cooperation with the doctor but with every other person interested in the family. In one instance there were three people visiting one family, all giving different suggestions. By getting in contact with the other two people they saw that the nutrition worker could do for the time being all that needed to be done, and so the problem was left in her hands. In some cases, it is found that the work can better be accomplished by one of the other visitors in the family, and the nutrition worker withdraws. Cooperation is essential in any event, and it is very important to understand the place of the nutrition worker in the public health field.

Another very important point too often overlooked is experience in record keeping. This helps to analyze results. The nutrition work of today needs facts to present as arguments for the furtherance of the work. Much good work is done without being appreciated because nobody knows about it and nobody knows about it because it is not presented in the right way. If the good work that is being done could be analyzed and presented in a telling way, the importance of the work would be more rapidly appreciated. May there be more practice in the keeping of records and the studying of results!

We are all feeling the need of better teaching methods for the untrained minds; for a better understanding of home and racial conditions; and for more experience in working with the physician and in dealing with the malnutrition problem. We are looking forward to the time in the very near future when those coming into the field will not have to go through some of our experiences but will come prepared to do the most effective kind of work from the start.

REPORT OF THE REGIONAL ORGANIZATION COMMITTEE

This report was submitted at the business session of the Annual Meeting, at Swampscott, by Mildred Weigley, Chairman, as follows:

The Regional Organization Committee has endeavored to push the idea of state organizations, with national affiliation, through the members of its committee who are each carrying responsibility for a region. The results of this work up to the time of the report show a constantly increasing interest on the part of practically all the states and a keen desire on the part of some to make the state organizations with their national affiliation a means of increasing state home economics interests and at the same time promoting a strong, unified national organization.

Up to the time included in this report (June 15, 1921) the organization work has proceeded as indicated by the following summary:

1. Number of regions: Six—Eastern, Southern, Central, West Central, Pacific, Canadian.
2. Number of states having completed affiliation: Two—Minnesota, Montana.
3. Number of states ready to complete this affiliation: Three—North Carolina, Texas, and the New England States.
4. Number of states which have asked and received affiliation blanks other than those listed under 2 and 3: Four—Alabama, Nebraska, North Dakota, Oklahoma.
5. Number of states which have sent in a five dollar affiliation fee (old basis): Two—Arizona, Utah.
6. The following states are either in the midst of deciding the question of affiliation or will bring up the matter at a definite time indicated to the committee:

Eastern Region—New York.

Southern Region—Florida, Alabama, Tennessee, Mississippi.

Central Region—Illinois, Indiana, Iowa, Ohio, Missouri, Wisconsin.

West Central Region—Kansas, Nebraska, North Dakota, Oklahoma, South Dakota.

Pacific Region—Arizona, California, Oregon, Utah, Washington.

It is anticipated that the months of October and November will see a large number of states with their state organizations completed.

FURTHER DATA ON PURCHASING HABITS[1]

ETHEL L. PHELPS

Division of Home Economics, University of Minnesota

The survey of purchasing habits constitutes one phase of the work started nearly two years ago by the Standardization Committee. Data were collected by means of questionnaires, and a report of the findings for one part of the investigation, service dresses, was made at the last annual meeting of the Association.[2] The present report gives further data concerning purchasing habits, and presents a summary of the material included in the five other sections of the questionnaires, which were not discussed in the earlier report. The committee endeavored to obtain as many of the original questionnaires as possible, and is indebted to the Home Economics Departments of the following institutions for securing the material used in this report: the University of California, the University of Nebraska, the Utah Agricultural College, the Michigan Agricultural College, Cornell University, and the University of Minnesota. The data presented were compiled from 545 questionnaires in the cases of underskirts and underwear, from 573 questionnaires in the cases of coat linings and dress foundations, and from 467 questionnaires in the case of children's dresses. In as much as all of the questionnaires returned did not contain data on all of the items listed, the following groups, mentioned less than 100 times, have been omitted: fabrics used for infant's garments, wool and union materials for children's dresses, union materials for dress foundations and underwear other than knitted, and cotton and union materials for coat linings.

Over half of the questionnaires returned were from home-makers, about one-half came from teachers, and most of the remainder were turned in by college students.

Following is a summary of the materials purchased, by the yard and ready-to-wear, by these groups of people for each of the five types of garments in question—underskirts, underwear other than knitted, coat linings, dress foundations or linings, and children's dresses.

1. Underskirts. Ten different silk fabrics are listed as having been used for this purpose, but only three fabrics are of marked importance. Jersey, taffeta, and satin (including messaline) have been used for more

[1] Presented at the meeting of the Textile Section of the American Home Economics Association, Swampscott, June, 1921.

[2] Phelps, E. L.: A Study of Clothing Purchasing Habits, *Jour. of H. E.*, Vol. XII, pp. 491–495.

than nine-tenths of the 323 underskirts mentioned, the remaining one-tenth being made from seven other fabrics. Most of the jersey skirts were purchased ready-to-wear, less than one-tenth being purchased by the yard. Similarly taffeta was about four times more popular as a material for ready-made skirts when compared with materials bought by the yard, while satin was more commonly used by the yard.

A little less than half of 375 cotton skirts were made of sateen, although 21 cotton materials are named for that purpose. Muslin and cambric were used for about one-fourth, with muslin predominating. Four other commonly used materials are longcloth, percaline (including heatherbloom), gingham, and nainsook. The noticeable difference in choice of material when purchased by the yard or ready-to-wear is that cambric is much more commonly used by the yard, while percaline is more commonly purchased ready-to-wear.

2. Underwear (other than knitted). 481 undergarments made of 13 different cotton materials are reported. About 85 per cent of these garments were made of nainsook, longcloth, and muslin, six of the 13 materials being used for 95 per cent of the garments. About the same relative importance has been given these six fabrics when purchased both by the yard and ready-to-wear, with one exception in the case of crepe, which has been nearly four times more popular by the yard than ready-made.

Only 132 cases of silk underwear were cited, seven fabrics being used. A little over half of these garments were made of crepe de chine, satin and jersey being somewhat less important, and all of the latter being purchased ready-to-wear.

3. Coat linings. Silk coat linings are much more popular than those of cotton or of mixed fibers, as evidenced by 257 cases of the former as compared with 85 of the latter two. Four of the nine silk materials listed—satin, pussy willow, taffeta, and foulard—are the most commonly chosen, satin being used in about two-thirds of the cases. All four retain about the same relative position whether purchased ready-to-wear or by the yard.

4. Dress foundations or linings. Three out of eleven silk materials constitute 94 per cent of the 139 silk dress foundations reported, china silk alone being used for nearly three-fourths. The other two fabrics are satin and taffeta, the popularity of satin being most marked when used by the yard.

A larger number of cotton materials are commonly utilized for dress foundations than is noted above for silk, six fabrics being used for about

90 per cent of the 168 cases reported, although 13 materials are named. Of these, net was used for nearly half, and lawn for a little less than one-fourth of the cases. The other four of the six materials mentioned are sateen, cambric, muslin, and voile.

5. Children's dresses. Cotton materials were the most abundantly reported fabrics for children's dresses. Twenty-two materials were named, but again four of them, gingham, percale, voile, and Devonshire cloth, were used for almost three-fourths of 205 garments, gingham alone being used for nearly one-half of the total number of cases. Most of the materials for this purpose are apparently bought by the yard, inasmuch as only 40 of the 205 cases were reported as being purchased ready-to-wear.

The following observations, based on these data, are in general comparable with the findings for service dresses.

All types of materials are not of equal importance for the types of garments studied. Silk is almost as popular a type of material for underskirts as is cotton. Cotton is very markedly preferred for undergarments when compared with silk. Silk as a material for coat linings is about three times as popular as cotton. Cotton is used more frequently for dress linings than is silk. For children's dresses, cotton is the only fabric reported a sufficient number of times to be included here. Climate, occupation, and income are doubtless factors which influence these choices. In general a relatively large number of fabrics are named in each class studied, but the major part of the garments are made of only a few different materials. As in the case of service dresses, no information is available concerning either retail or wholesale sales of fabrics for these uses, or the effect of the prevailing style on the selection of materials, while very few trademarked fabrics were named. No observations could be made concerning the actual effect of differences in climate, occupation, or income, or concerning the cause underlying the selections herein recorded.

Summarizing the whole survey of purchasing habits, it will be seen that a few fabrics in each group or class of materials, i.e., wool, silk, and cotton, are of outstanding importance. For this final summary, all results were combined, omitting only those items previously noted where less than 100 returns were made. The following information is obtained as a result.

Wool fabrics (service dresses), 34 materials, 1144 cases.

Silk fabrics (service dresses, underskirts, underwear, coat linings, dress foundations), 34 materials, 1612 cases.

Cotton fabrics (underskirts, underwear, dress foundations, children's dresses), 36 materials, 1229 cases.

Seven, eleven, and fourteen of these three groups of materials, respectively, are used for approximately 94 per cent of the garments reported for each group. These materials are listed below in the order of their popularity, as indicated by their percentage use.

Summary of survey of purchasing habits. Materials constituting approximately 94 per cent of garments reported for uses named above, combining all groups of at least 100 cases. Materials listed in order of popularity as indicated by percentage use

WOOL FABRICS		SILK FABRICS		COTTON FABRICS	
	per cent		*per cent*		*per cent*
Serge	55.0	Satin*	28.0	Nainsook	15.0
Tricotine	11.0	Taffeta	22.0	Sateen	14.0
Jersey	10.0	Jersey	9.0	Longcloth	12.0
Poplin	5.0	Crêpe de chine	9.0	Muslin	11.0
Broadcloth	5.0	China silk	6.5	Cambric	10.0
Gabardine	4.0	Georgette	5.5	Gingham	9.0
Velour	4.0	Pussy willow	5.0	Net	7.0
		Tricolette	2.5	Lawn	4.0
		Poplin	2.5	Percaline†	2.0
		Velvet	2.0	Voile	2.0
		Foulard	2.0	Crêpe	2.0
				Batiste	2.0
				Percale	2.0
				Devonshire cloth	1.5
Totals	94.0		94.0		93.5

* Satin including messaline.

† Percaline including heatherbloom.

As evidenced by this survey, these thirty-two materials, in the order named, are worthy of consideration for standardization.

SPRUCE BEER AS AN ANTISCORBUTIC

VIVIA B. APPLETON

In an article on "Diet in Labrador," in the May number of the JOURNAL, the author calls attention to the use of spruce beer as a beverage and a spruce decoction as a "spring tonic" in Labrador. This custom suggests the value of spruce as an antiscorbutic, since, in this region, the diet is so restricted that deficiency diseases, beri beri and scurvy, occur every spring. It is an old remedy which has fallen into disuse, rather than a new one.

Jacques Cartier was the first to describe the use of spruce as an antiscorbutic. (Hakluyt's Collections of Voyages, Vol. III, page 262). On his second voyage of discovery in Canada, Cartier wintered near an Indian village, Stavacona, in Quebec. Both the Indians and his crew were afflicted with scurvy. Between December and the middle of March, 25 men from his crew died, and the rest were so sick that recovery was despaired of except for three or four. The middle of March, Cartier noticed an Indian whole and sound, who had been very ill with scurvy ten or twelve days earlier. He asked the Indian how he had healed himself, and was told that he had taken the juice and sap of the leaves of a certain tree called "Ameda." At Cartier's request, the Indian had branches brought, and showed how the bark and leaves should be boiled together, and the resulting decoction taken every other day. So successful was the remedy that all Cartier's crew were speedily completely cured, and the narrator goes on to say, "It wrought so well, that if all the physicians of Montpelier and Louaine had been there, with all the drugs of Alexandria, they would not have done as much in one yere as that tree did in sixe days, for it did so preuaile, that as many as used it, by the grace of God recouered their health." He goes on to explain that the "Ameda" is thought to be the Sassfras tree, but this incident occurred the middle of March at a season when "our captaine" was walking from his boat to the shore upon the ice, at the time he saw the Indian who had been healed, so the "Ameda" could not have been a deciduous tree. Lind believed it to be the American spruce.

Although this spruce decoction was an Indian remedy, scurvy appears to have been a rare disease among the Indians. Benjamin Rush (Medical Inquiries and Observations, Phila. 1805, Vol. I) says that he could not find that Indians were ever subject to scurvy, and describes their diet as "of a mixed nature, being partly animal and partly vegetable."

Matthews (Ethnography and Philology of Hydasta Indians, Wash. D. C., 1877, page 25) also refers to the fact that Indians were not subject to scurvy. The tribes in the North, however, must have found greater difficulty in securing a mixed diet, and sometimes suffered from scurvy, and so had found a remedy.

Budd (Tweedie's System of Pract. Med., Phila., 1841, Vol. V. 99–151), relates that the early northern colonists in America were greatly afflicted with scurvy, and often considered abandoning their settlements, because of the mortality caused by this disease, in winter. He states, however, that as early as the middle of the 18th century "the persons employed in our factories at Hudson Bay enjoyed extraordinary health and were entirely exempt from Scurvy, a circumstance which has been ascribed to the use of Spruce Beer which they had adopted as a common beverage."

Whether the use of spruce beer in Europe was adopted from this American custom or was an original discovery, is not certain. Lind, quoted by Hess in his book on scurvy, and by Budd, describes the preparation of an antiscorbutic decoction of fir tops, and attributes its use to the advice of Erbenius, the king's physician during the Swedish-Russian war in 1708–9, when it was found by the Swedes to be efficacious in the treatment and prevention of scurvy. Lind was also familiar with Cartier's decoction of bark and leaves of the "Ameda" tree. Lind is quoted by Budd in describing two squadrons, fitted out by the court of Russia and obliged to winter in Siberia in 1736, when each independently discovered by chance that the mountain pine had a most surprising antiscorbutic virtue.

There is abundant proof that spruce beer was in common use and a generally accepted antiscorbutic during the 18th century. Sir Gilbert Blane (Select Disertations, London, 1822) refers to its use. Notes taken by Professor C. M. Andrews of Yale,[1] from the Calendar of State Papers Colonial, 1902, page 742–743, say that Captain Leak, before the Board of Trade in Whitehall, observed that "beer made with molasses and spruce buds (with which that country [Newfoundland] abounds), is both cheaper and wholesomer than beer made with malt." A note also taken by Professor Andrews from Document among the Treasury Papers P. R. O., London, 1772 states "in a letter from the Admiralty to the Treasury in England, the former speaks of 'essence of spruce,' from Quebec, 'which when brewed into beer may be of greater service to the navy in preserving seamen from scurvy.'"

[1] These and other data were supplied by Professor Lafayette B. Mendel of Yale University.

When more rapid navigation was made possible by replacing sailing vessels by steam power, and a more varied diet was made possible by more quick and easy land transportation, scurvy ceased to be a permanent menace, and this knowledge of spruce as an antiscorbutic seems to have been forgotten. Although there were many outbreaks of scurvy during the Civil War, and forests of spruce trees were near at hand, we find no mention either in Medical History of the War of the Rebellion, Washington, 1888, Vol. III, p. 63, or in Munson's Military Hygiene, N. Y., 1901, p. 760, of spruce beer being given as an antiscorbutic, although the absence of fresh vegetables was lamented.

In writing on "Scurvy in the World War" (International Journal of Public Health, 1920, Vol. 1, p. 203), Hess states that the largest number of cases was reported on the eastern front, in Russia and among the nations neighboring Russia and in Mesopotamia. Along the western front very few cases were described. The civilian population of the various warring countries was by no means spared. The greatest amount of scurvy in civilians, of which we have information, was in Austria, more particularly in Vienna. Tobler (Der Skorbut im Kindesalter, Zeitschr. f. Kinderheilk., 1918, XVIII, 63) describes scurvy in children. He was familiar with the writings of Lind and the advice of Erbenius to the troops of Chas. the XIIth in the winter of 1708–9. Tobler found that the infusion of pine needles as a tea gave the best results. As soon as he was assured of the usefulness of this remedy, the children from the children's home, of which he had direction, were sent into the woods with bags to gather fresh pine needles, and every child was given daily a cup of pine needle tea, to which Tobler gives high praise both as a remedy and a preventive means for scurvy. In most cases it is probable that the so-called spruce beer was really little more than an infusion, as it was taken when freshly made.

The wide distribution of forests of black spruce makes it a remedy easily obtained at any season, and almost without cost. These forests are present from New York to British Columbia, Newfoundland, Hudson Bay Region, Alaska, and along the mountains of North Carolina and Tennessee. The Norway spruce is equally common in northern Europe. It is to be hoped that this efficacious, easily-obtained remedy and preventative may not be forgotten if a future need arises.

FOR THE HOMEMAKER

BOBBINS AND PINS

AGNES DEVOE MILNE

The English lane winds uphill past some old cottages; plum vines climb over their grey stones, and wallflowers bloom bright on the mossy roofs. At an open doorway framed in rosebuds sits an old woman; a three-legged lace pillow is before her, and her rheumatic fingers are evolving a Cluny lace edging with witching speed, while the pleasant click of the bobbins mingles with the hum of the bees.

"Good afternoon, Mrs. Wattle," says a brisk voice; as the visiting ace buyer jumps from her little cart. "How's the work coming on?"

The old body lifts her bobbing curls. "Eh, Miss, not so bad; it's pretty loice." The buyer gives an intelligent look at the lace on the pillow, says a word of praise, and passes on to the next doorway. Greatly interested, we trot along too.

But here Granny is rocking Baby's cradle; no clicking bobbins today—only laments from the contents of the cradle. "Not working, Miss; minding Baby; he's a bit fretful." She looks wistfully at her idle pillow covered with a towel. The buyer lifts a corner; a fine big centerpiece border is in progress.

"Spider pattern," volunteers Granny with pride. The buyer takes out her purse. "It will take Granny many weeks to finish this, so we pay her a little each week."

We accept the buyer's delightful invitation to ride about with her in the pony-trap to see some of the isolated workers. As we jog along between blooming hedgerows, she relates the growth of this lace industry. Many generations ago Flemish and French refugees brought their lace pillows with them in their weary flight to these counties and shires of Bedford, Buckingham, and Northampton. They joined in friendly competition with the English women who were already making a lovely cobwebby lace; so with intermarriage the art passed down to son and daughter from mother and father—for men worked at it too. Royalty and nobility were extravagant wearers of lace—ruffs, cuffs, and kirtles. Gentry and ecclesiastic alike were adorned with it. But with the march

of progress, the invention of machinery, and so on, handmade lace found fewer markets. Private patrons were hard to keep, and gradually lace makers put away their pillows, and fingers forgot their cunning. Now within a decade a business-like agency has organized the industry. It distributes patterns, buys only the best work, and by excellent advertising has created a world-wide market for the lace. The workers have hunted up their pillows after years of idleness; they have collected their ancient bobbins, and many a cottage is now enriched by a small steady sum coming in weekly—a blessing to elderly women who cannot get outside employment, and to wives of farm laborers whose winter wages are uncertain.

The kitchen in one tiny house is a busy place. A "bespoken" piece, a beautiful filmy wedding veil is on the pillow, and mother is late with it. Two little daughters are helping with thread, another is minding baby, and the fourth, the steaming teakettle on the hob. Mother, her mouth full of pins, is shuffling bobbins with miraculous speed, rebuffing with no uncertain foot a frivolous kitten, and directing the small girl to pour a "bit of tea for the lydies."

"Six or seven hours a day is all the average worker can give to the lace," explains the buyer as we pause at the next house where a white-capped old body displays her pillow with toothless pride. "Past eighty years, Miss," she informs us. She can do only simple edgings; many pins would tax her eyes, though this bobbin lace does not try the eyesight as does the needle-point of the French and Belgians. She shows her old-fashioned light for use in the long winter evenings—a wooden block with candles fastened back of three crystal globes filled with water. These reflect, it is true, only an Early Victorian light, but the old folks prefer it to newfangled lamps. Below hang the hutches—rude reed baskets in which the crystals are kept spotless during the day. In the corner stands her pipkin for hot wood ashes; she cuddles this under her skirts in the winter, for stone floors can be bitterly cold for the toes. By the fire an old man is shelling peas with patient gnarled fingers. "I used to do a bit of loice, myself, Miss," he nods at the pillow, "and I mind old Daddy Dawson, when I were a boy, getting a prize for his loice."

One more open door—a cheery little place with its stones scrubbed white, braided rugs, geraniums brilliant in the tiny casement windows, a fat white cat in the sun, and Miss Newton herself, who shares the cottage with Pussy, all tidy in print gown and pinafore! She is doing a set of collar and cuffs. Over her head hangs a portrait of her mother

at her pillow in the last days of her lace career. Miss Newton is especially proud of the waved Flemish design which her mother used in much of her lace, and which had come down to her from an exiled ancestor. Miss Newton owns some bone bobbins skilfully carved with the initials and dates of the several generations who plied them; others are carved like little cathedral pillars. She remembers her mother's tales of the old dames who kept lace schools, and of the quaint songs called lace-tellings, which the children sang at their pillows as they put in the pins.

Nowadays the workers can copy the best designs in any pillow lace. They teach the younger ones, lend their parchment patterns, and vie with each other only in the quality of their work. Loose ends and careless knotting condemn a piece, and the worker soon learns what Ruskin preached—that honest handwork is never lost time.

The poet Cowper lived for many years in this district. He often wound bobbins for Mrs. Unwin, and, in their old home, now an attractive museum, are her pillow, bobbin-winder, and candle-block. Cowper, writing to a friend in 1784 a half-humorous protest against unjust taxes on candles, says, "I wish the tax-workers would visit the huts of our lace-workers, and see them working in the winter months by light of a farthing candle from four in the afternoon till midnight." In another letter Cowper speaks of a man in Olney, a common sailor, who amassed money in the lace business, and then put almost "his whole substance to hazard in sending a cargo of lace to America." This venture, alas, was a failure; the busy colonists had more practical uses for their money.

At the lace agency, careful sewers are employed to make up the bought lace into garments, napery, and other articles according to Fashion's latest whim. The completed goods, easily packed into envelopes, are sent through the mails to possible customers, who may keep them for several days' inspection. Women are usually glad to pay the duty (in most cases trifling), for the sake of owning strong lace of all varieties—delicate Bucks, or the heavier Cluny and Torchon. They may well feel a satisfaction, too, in the thought that they are upholding a market for a beautiful and womanly handwork wrought in a quiet little home.

FEEDING OUR CITIES[1]

CAROLINE B. SHERMAN

Assistant in Market Information, United States Department of Agriculture

Feeding our large cities is a task of no mean magnitude. Even to keep them supplied with sufficient fruits and vegetables to meet their demands is a huge business in itself. Although Chicago requires 24,000 cars of such produce yearly in addition to the quantities trucked in by neighboring farmers, New York City requires more than twice that number, or approximately 50,000 cars annually. New York's annual consumption of the leading vegetables represents about 14 per cent of all that are shipped by rail throughout the country, and of the leading fruits it requires 15 per cent. Compared with this demand, Chicago's requirement of 7 per cent of fruit and vegetable shipments seems modest.

Apples, peaches, cantaloupes, and strawberries, white potatoes, cabbages, tomatoes, and onions, are included in these cars. Apples appear to be the all-round favorite fruit in both cities. On an average Chicago uses more than 5000 cars during a year while New York doubles the number and uses approximately 10,000 cars. The two cities thus consume about 22 per cent of the shipped crop of the country. The steadily increasing takings of the large cities undoubtedly represent a response to the intensive marketing campaigns waged by progressive apple producers' associations. Chicago draws its supplies of barreled apples largely from Illinois, Michigan, and New York, but goes as far as Washington for its boxed supplies; New York goes far afield to fill its demands, literally from Maine to Oregon, and south to Virginia. However, New York State continues to ship steadily to Chicago, having sent as many as 1500 carloads in a single year.

As a rule, Georgia peaches reach both Chicago and New York City in larger quantities than those from any other state. These peaches are early in the market and continue for several months. California reaches both markets. In fact the peaches shipped out of these two states are equal to all the peaches shipped out of all the other states combined. The original commercial peach country, including Maryland, Delaware, and New Jersey, is now relatively less important in the markets. Peaches are found on the markets from June to October and prove to be the most popular of short-season fruit.

[1] Figures based on those supplied daily by the railroads in connection with the Federal Market News Service.

The growth of the cantaloupe industry in the Far West and its competition with eastern production in eastern markets has been an interesting development in recent years. Most of the large cities receive the bulk of their shipments from California, Arizona, and Colorado. New York receives about 59 per cent of its carlot supplies from these states, while Chicago draws on them to the extent of 81 per cent, and of the remaining portion practically none come to Chicago from the East.

Most of Chicago's supply of strawberries are received during May and June. Michigan usually sends the largest number of cars, averaging about 340 a year. Louisiana, Tennessee, and Illinois are the next heaviest contributors. Chicago's total consumption averages 1200 cars a year, and New York's 1750, but the amount varies greatly from year to year, largely according to quantity production and price. During the war, labor and transportation conditions greatly lessened the supply everywhere.

The faithful potato is of course the vegetable most in demand. Carloads received in Chicago average 11,000 a year. Michigan, Minnesota, and Wisconsin supply more than half of Chicago's demand and the remainder come from widely separated states according to season. They come first from Florida, then from Louisiana, Mississippi, and Texas, then from Alabama, the Carolinas, and Virginia as the season advances. Potatoes comprise about two-thirds of New York City's total supply of leading vegetables, and in number of carloads they equal its entire supply of fruit. Twelve million bushels is only an average yearly supply for the city.

Practically all of Chicago's Bermuda onions are raised in Texas but New York receives imports from Valencia and even from Bermuda. California ships onions across the continent to compete with those imported and those grown on the Atlantic seaboard. Some years the imports for New York are more than 1,000,000 bushels, for with its large foreign population onions are much in demand. It has been found, however, that the demand for onions here as elsewhere is rather a stable one and is not appreciably stimulated by large receipts or low prices.

Most of the early cabbage in the Chicago market comes from California, Florida, Mississpipi, and Texas. A noteworthy point here is that, when Texas had an exceedingly short crop in 1918 and did not ship to Chicago, Florida with an exceedingly large crop more than doubled her shipments there of the previous year. The reverse was true in 1919. Late cabbage comes largely from Wisconsin and New York. Early and late cabbage together total about 1400 cars annually for Chicago and 2400 for New York.

Tomatoes are now shipped great distances during all kinds of weather. Both cities have a year-round supply. During the winter, California and Florida ship in small lots, and, very early in the spring, Mississippi and Texas come on the markets in rapidly increasing quantities, followed later by Tennessee and states farther north. The west coast of Mexico has contributed as many as 50 cars to Chicago during some years.

The production of these perishable crops is far more hazardous than the production of staples, and their shipment to market over great distances in varying degrees of weather, heat, and cold is a modern achievement of almost romantic interest. Those who undertake to raise and ship highly perishable fruits and vegetables on any large scale find themselves in a business, which, by the very nature of the product, is fluctuating and speculative. Crop pests, late frosts, wet seasons and dry, great heat and sudden cold, all take their toll of the supply available to feed our large cities with their many millions of people.

BACON'S EXPERIMENT ON PRESERVING MEAT WITH COLD

The following, taken from the Biography of Francis Bacon, refers to an experiment performed in 1626:

"But in ill health and infirmity he continued his studies and experiments; as it occurred to him that snow might preserve animal substances from putrefaction as well as salt, he tried the experiment, and stuffed a fowl with snow with his own hands. The great apostle of experimental philosophy was destined to become its martyr; he took cold. From his bed he dictated a letter to the Earl of Arundel, to whose house he had been conveyed. 'I was likely to have had the fortune of Caius Plinius the Elder, who lost his life trying an experiment about the burning of the Mount Vesuvius. For I was also desirous to try an experiment or two touching the conservation and induration of bodies. As for the experiment itself, it succeeded excellently well.' He had, indeed, the fortune of Pliny the Elder; for he never recovered from the effects of his cold, which brought on fever and a complaint of the chest; and he expired on the 9th day of April, 1626, in the sixty-sixth year of his age."

EDITORIAL

Our International Interests. As this number of the JOURNAL goes to press, the Conference on the Limitation of Armament is fixing our thoughts on international affairs. If that gathering accomplishes nothing else it may drive home the fact that in these democratic days a whole nation must be "internationally minded" if its politicians are to secure wise and lasting agreements with other nations. Can home economics workers as a group do anything to further international understanding and good will?

Mrs. Norton's work in Constantinople is evidence that they can, and so are the exchange lectureships which the Association has fostered. The International Committee suggests still other ways by which we and our foreign colleagues can come to know each other better. It hopes that a sort of news exchange with workers in other parts of the world can be arranged through the JOURNAL and it urges all members of the Association to send in any interesting foreign items they may glean from travel, reading, or correspondence. To Americans going abroad it will be glad to furnish whatever information it possesses regarding home economics institutions, and asks them to report their experiences to the Committee for the benefit of future travellers. It also desires to be informed of the presence here of foreign visitors interested in home economics and will do what it can to make their stay in the United States more profitable and agreeable. Above all, it now asks help in securing a suitable representation of American work and workers at the Third International Congress of Home Economics Instruction at Paris in April, 1922. Such representation may be of three kinds: by delegates to the Congress, by contributions to the program, and by exhibits showing the progress of home economics work in this country.

The topics to be considered at Paris will be found on page 139 of the JOURNAL for March, 1921. As was explained in the March JOURNAL, prospective members of the Congress or organizations affiliated with it send in, several months in advance, brief notes of contributions which they wish to make to the discussion of any topic; a special editor makes a summary of all the notes received on a given topic and presents this at the Congress. Opportunity is also given at the Congress

for brief individual contributions or discussions, but to be included in the preliminary program sent to all members, the data should reach the Fribourg Office of the International Federation of Home Economics Instruction as soon as possible. Members of the American Home Economics Association who wish to make such advance contributions may do so through the International Committee of the Association and should send them at once to Miss Helen Atwater, Department of Agriculture, Washington, D. C.

Miss Atwater will be glad to know of any home economics workers who expect to be in or near Paris next Easter, and will pass on to them whatever information she has regarding the Congress.

Standardized Weights and Measures. Glass cups, tin cups, enamel cups, aluminum cups! What a variety of measuring cups is to be found in the food laboratories of our schools and how far are most of them from approaching the standard volume of one fourth of a quart! The failure of home economics teachers as an organized group to have demanded a standard volume measuring cup is responsible for the heterogeneous collection we now find with us. That we have been content with such make-shifts for all these years is not a matter calling for self-congratulation.

Cups of standard capacity are essential if we are to have uniformity in the interpretation of proportions used in cooking and, also important, they are essential to the formulation of a system of standard weights for the cupful of staple food materials. Almost everyone admits the necessity of knowing at times how much a cupful of flour, milk, et cetera, weighs, but not enough of us see the importance of having carefully determined weights to be used without change in all courses in foods. The usual procedure in most schools is for each successive class to adopt for the term's use its own casually determined set of weight equivalents. A perusal of the data reported in experimental and research fields emphasizes the lack of agreement in such seemingly fundamental points.

Is there a difference, as some teachers and text-books continue to state, between the number of tablespoons of liquid and the number of tablespoons of dry ingredients contained in a cup? The volume of the cup is 237 cubic centimeters whether the material filling it be sugar or water; with care, liquids can be measured just as level as dry materials, allowing the usual 16 tablespoons to the cup.

Controlled processes of cooking and dietary calculations both demand such uniformity of data as we do not now have. Previous attempts have been made by interested ones to assemble and work up into usable form the information already available. The tabulation of average weights, used in many of the schools of the country, by the office of the Food Administration in 1918 was the most comprehensive of these attempts, but there was no response from home economics teachers indicating that the adopting of the averages or any others was desired.

Definite action on a question like this will help clear away the haze of inaccuracy and indefiniteness which envelopes some of our teaching of foods.

Bread. Do You Want a "Standard" Loaf? Weights and measures officials of the United States are proposing a law which will require the sale of bread in standard loaves of one-half pound, one pound, one and one-half pounds, or in other multiples of the standard weight. The object is to remedy the present condition where loaves are made up in any size which suits the baker, and sold with the weight unmarked, leaving the buyer ignorant of the cost she is paying per pound. Loaves may seem similar in size but reveal two or three ounces difference in weight when closely examined. You can compare the prices which Grocer A and Grocer B are charging for sugar because each states clearly his price per pound, but there is no such way of deciding whether to give your trade to Baker C or Baker D. Each offers you a *loaf*, and to buy intelligently you must make a purchase from each, take the two loaves home, weigh them, and see which is cheaper. This condition prevails in the majority of states, there being a few which have retained the war time regulation of the loaf upon which weight must be given.

There should be a remedy. Perhaps it is not the "standard" loaf but the selling of bread by weight—a loaf of any size the baker chooses to make, but with the weight plainly marked on the loaf itself, the wrapper, or a huge placard above the bread counter. This latter plan is favored by the association of bakers who forsee many difficulties in price adjustments with the pound and half-pound loaves. That we should permit as unbusiness-like a system as we now have for the sale of our most used food seems incredible. Either the "standard" loaf or the sale of bread by weight should be advocated.

OPEN FORUM

On Scientific Writing. A treatise on plant pathology[1] may seem an odd book to recommend to research workers in home economics and even to the general reader. Only those interested in plant pathology, it is true, will appreciate most of it, but the last section (pages 633–661) entitled "General Suggestions" might well be required reading for college students in all scientific courses and part of the laboratory handbook of every mature research worker. Dr. Smith is himself a scientist of more than national reputation and hence is in a position to give invaluable advice on the attitude of the scientist toward experimentation, the presentation of data, and the ethics of research. While Dr. Smith's standards may be higher than those of many others he has set them forth in a lucid, forceful style that shows beyond question the value of technique in writing whatever may be the subject, as the following extracts bear witness:

The object of publication is to let other persons know what we have discovered. We cannot reach every one, nor is that the aim, but we should be able to reach those cultivating the same field. The choice of a place for publication is, therefore, not unimportant. Generally we should choose some journal devoted to our specialty or, at least, concerned with kindred topics.

Having selected a place for publication, the serious question arises how best to present the subject matter. This is comparatively easy only when the subject is a simple one and the contribution is but a note. It is grave if the subject is complex, and the writing extensive. Moreover, I have observed that the difficulty increases in proportion to the ignorance of the writer. Many a big book could have been boiled down to a few chapters, and in some cases to a few sentences, or to nothing at all, had its author been possessed of clear ideas. As a means of compression, learn to think. This is too much to expect of every one, but not too much to insist upon for the man of science. Whatever is worth doing at all is worth doing well. Clarity is the soul of truth, and especially in science there should be an idea behind every expression, and this idea should be stated as clearly as language permits. To read the dictionary is usually considered in the light of a joke, but I doubt if any student could do better, and that, too, through a long series of years. If he does not continually thumb grammar and dictionary, and persistently read the best authors, he will seldom acquire a luminous and persuasive style. There are various ways of saying things, but only one best way. In spite of the motley array of bad writers, it is best that subject and predicate

[1] An Introduction to Bacterial Diseases of Plants. Erwin F. Smith. W. B. Saunders Company, 1920.

should agree, that one should avoid split infinitives, and especially that each statement should be susceptible of but one interpretation!

Every paragraph and every sentence in your paper should receive careful and repeated consideration: first, as to whether it tells the exact truth; second, as to whether it is absolutely clear, i.e., will convey the same meaning to all as to yourself (try it on your friends, if they will submit to it); third, as to whether it is complete, or requires various additions or qualifications—science is an eternal qualification; fourth, as to whether the sentences in it are entirely logical and move convincingly toward your final conclusions. These things can be determined only by repeated readings and much pondering. It helps greatly, when one has finished a paper, judging from my own experience, to turn back and re-write the whole of it. During this laborious and more or less irksome process, many new ideas occur to me, and better ways of stating ideas already expressed. * * * * * * *

You publish to convince your readers and advance your own branch of science, and incidentally to enhance your own reputation. Look to it, then, that your writings are not only permeated with a love of the truth, but are forceful and limpid as a mountain stream. To this end, avoid technical terms when common words will serve, even if you must do so at the expense of some conciseness. Nothing is more discouraging to the general reader than a book or paper bristling with a newly invented terminology, or full of mathematical formulae. * * * * * * * * * * *

A good rule is never to use two pages for a subject that can be compressed by a little thinking into one. The generality of men use more words to express an idea than are actually necessary, if the best words had been chosen. Study the meaning of words, their shades of meaning, and re-write a subject twenty times, if necessary, to state it cogently and with brevity. Remember: nearly everybody will read a brief statement on an interesting subject, while only the most phlegmatic and determined will hold themselves to a long winded one. You will more than treble the number of your readers by halving your paper! Moreover, for the necessity of those who cannot spend even the minimum of time necessary to read a short paper, and for the convenience of everybody, especially of the foreigner, it is your solemn duty to sum up the substance of your contribution in a series of brief conclusions which everyone will read, and which, if well put, may induce many to turn back and read your whole paper. No little thing vexes me more than to take up a paper two hundred pages long, let us say, often in a foreign language, and find no summary. I dip into it here and there trying to find what it is all about, without actually reading it word for word, and if I cannot do this the chances are that I throw it aside. Other people beside an author have some rights! Once I might have read it *verbatim*, but I have read too many such without profit, and now I am wary. It may be nearly all ambrosia, but how is one to know if its author has not respected it enough to provide a summary of its contents, as an appetizer?

QUESTION BOX

Question: How much time should be allowed, in the dining room of a state normal school, for serving dinners in a manner which conforms to good table etiquette?

Is such service justifiable in consideration of the fact that it is a part of a student's education, or should plates be stacked at the table?

Should it be necessary to serve cereal in the same saucers used for fruit—after they have been scraped at the table?

Can we make our work in cooking classes, on table service, function when students see service of this kind three times a day for nine months?

How many tables (eight each) can a student take care of and serve satisfactorily in a forty-five minute period?

Is it legitimate for a *state* school to lay aside annually a profit on board charged students? If so, what is a legitimate profit?

Answers to the above questions will be welcomed, especially answers from those who have had practical experience in administering a college dining room where student service is used.—Editor.

One reply is as follows:

1. Three quarters of an hour should be allowed for the service of dinner; one hour would be better.

2. As a school or college is often judged by the table manners of its graduates, the most dignified service and appointments possible should be provided. Plates should not be stacked at the table.

3. It seems most unfortunate that students should find table service in school inferior to that to which the majority must be accustomed in their homes.

4. No, I think it would be difficult.

5. I know of one university dormitory where sixteen—two tables of eight—are served by one student most satisfactorily. Plate service is used. The time allowed in the dining room is not limited. A three or four course meal is served.

6. It would seem only right that only enough profit to cover depreciation and renewal of equipment should be taken from the amount paid to the state for board by students.

BOOKS AND LITERATURE

PAMPHLETS RECEIVED

Issued by the U. S. Department of Labor, Childrens Bureau:

Infant Mortality in Pittsburgh. An analysis of records for 1920, with six charts. Bureau Publication No. 86.

The Administration of the Aid-to-Mothers Law in Illinois. By Edith Abbott and Sophonisba P. Breckinridge. Bureau Publication No. 82.

Administration of Child-Labor Laws (Wisconsin). Bureau Publication No. 85.

Average Heights and Weights of Children under Six Years of Age. Bureau Publication No. 84.

Breast Feeding. Bureau Publication No. 83.

Children Deprived of Parental Care. A study of Children taken under care by Delaware Agencies and Institutions. Bureau Publication No. 81.

Illegitimacy as a Child-Welfare Problem. A study of original records in the city of Boston and in the State of Massachusetts. Bureau Publication No. 75.

Infant-Welfare Work in Europe. An account of recent experiences in Great Britain, Austria, Belgium, France, Germany, and Italy. Bureau Publication No. 76.

Physical Standards for Working Children. Bureau Publication No. 79.

Probation in Children's Courts. Bureau Publication No. 80.

Standards of Legal Protection for Children Born out of Wedlock. Bureau Publication No. 77.

State Commissions for the Study and Revision of Child-Welfare Laws. Bureau Publication No. 71.

Issued by the U. S. Department of Labor, Women's Bureau:

A Physiological Basis for the Shorter Working Day for Women. Bulletin No. 14.

Women's Wages in Kansas. Bulletin No. 17.

Issued by the U. S. Department of Agriculture:

Beautifying the Farmstead. Farmers' Bulletin No. 1087.

Rice as Food. Farmers' Bulletin 1195.

Status and Results of Home Demonstration Work: Northern and Western States. By Florence E. Ward. Department Circular No. 141.

The Farm Woman's Problems. By Florence E. Ward. Department Circular No. 148.

Issued by the New York State College of Agriculture:

The Country Theater. Country Life Series, Lesson 153.

Household Insects and Their Control. Country Life Series, Lesson 134.

Use More Cheese. Country Life Series, Lesson 133.

The Vegetable Garden. A manual for Junior Extension Workers in Vegetable Gardening. Bulletin 4.

Issued by the University of Illinois:

The School Lunch. By Mary Pack. Extension Circular No. 41.

Suggestions for Making Jelly, Jam, Butter, Marmalade. By Nina B. Crigler and Harriet M. Phillips. Extension Circular No. 37.

Issued by the College of Industrial Arts, Denton, Texas:

Food Preservation, Canning, Preserving, Jelly Making. By Margaret Gleason. Monthly Bulletin, April 1, 1921.

Table Service. By Sarah Best. Monthly Bulletin, July 1, 1921.

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Clothing—Food—Shelter. Bulletin No. 8. Missouri State Bd. of Educ., Jefferson City.

First Reader. Nutrition Series. No. 1. Merrill-Palmer School, Detroit, Mich.

How Natural Gas Burners can be Improved. Investigation made by the Bureau of Standards.

King Good Health Wins. A Modern Health Crusade Play. Mrs. Ernest R. Grant, 923 H Street, N. W., Washington, D. C.

Laundering At Home. Bulletins 1–6 under one cover: 1—Removal of Stains; 2—Supplies for the Home Laundry; 3—Washing Woolens and Silks, Washing Cottons and Linens; 4—Washing Machines; 5—Ironing; 6—The Equipped Home Laundry. American Washing Machine Manufacturers' Association, 10 South La Salle Street, Chicago.

The Place in Education of Vocational Homemaking. Baroda College, Baroda, India.

Social-Hygiene Education. Bulletin, Ser. 12, No. 13, Teachers College, N. Y. City.

Statistical Report of Infant Mortality for 1920. In 519 cities of the United States. American Child Hygiene Association, 1211 Cathedral Street, Baltimore, Md.

BIBLIOGRAPHY ON THE NUTRITIVE VALUE OF MILK AND MILK PRODUCTS

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NEWS FROM THE FIELD

The Second International Congress of Eugenics met in New York, September 22–28. It was attended by leading eugenists, biologists, statisticians, and physicians, from England, France, Italy, Scotland, Bohemia, Cuba, Norway, Mexico, and from all parts of the United States. Addresses at the formal opening of the Congress, were made by Henry Fairfield Osborn, President of the Congress, Leonard Darwin, President of the Eugenics Education Society, London, and Charles B. Davenport, Director of the Department of Genetics, Carnegie Institution of Washington. After this general session the program was divided into sections on human and comparative heredity, eugenics and the human family, human racial differences, and eugenics and the state.

To select the best in heredity is essential for the future evolution of human society; to preserve the best is also essential. The home economics women, by endowing the profession of homemaking with interest and dignity so as to appeal to our best equipped individuals, by dissemination of knowledge which will help to make desirable environments of all homes, may be important factors in the improvement of race hygiene.

Mrs. Bryan was the delegate of the American Home Economics Association to this Congress.

The Third Annual Convention of the Business And Professional Women's Club met at Cleveland July 19–23. This organization is made up of women actively engaged in business. There were bankers, lawyers, teachers, professional buyers, real estate dealers, architects, doctors, and even undertakers among the eight hundred women in attendance. Mrs. Lena Lake Forest presided and was re-elected president for the coming year.

To the home economics people who were at Swampscott, it will be of interest to know that the Business and Professional Women's Club reorganized and raised their dues. This seems to be a year for reorganization.

The program was varied, containing excellent lectures on education, legislation, and what the organization as a whole could do for women in all walks of life. A whole day was spent in discussing legislation that the club as a whole should endorse, and it was gratifying that the Fess Bill was one to receive recognition.

This infant organization has a bright future before it and, because of its membership of business women, should contribute much to all women in all professions.

Amy Kelly, State Home Demonstration Leader, Idaho, was the delegate of the American Home Economics Association to this convention.

The New England Home Economics Association has plans for a busy year under the continuing leadership of Antoinette Roof of Simmons College. The general meetings of the Association will take up various phases of the subject: "Home Economics and the Home," reserving for group conferences, arranged by the chairmen of sections, the detailed consideration of professional problems. Dietitians are organized under Bertha M. Wood of the Boston Dispensary; homemakers under Mrs. Charles E. Mongan; social workers under Margery M. Smith of the Dietetic Bureau; and teachers under Jeannie B. Kenrick of the Newton Vocational School.

The program for the first general meeting, held on October 15, was: The Opportunities of the Home Economics Teacher in Cities—Mrs. William Lowell Putnam, Chief of the Foreign Division of the Military Intelligence Service, Massachusetts; The Rural School

and the Rural Home—Florence M. Hale, agent, Maine State Department of Public Schools.

The Home Economics Section of The Missouri State Teachers Association met in St. Louis, on November 2 to 5. Ida M. Shilling is president of this association, and Clare White, State Supervisor of Home Economics, is acting secretary.

The Teachers of Vocational Home Economics of Missouri met for their annual conference in Columbia, Nov. 9 to 11. The time was spent in the discussion of the following four topics: Making the Applied Art Work Function—discussion led by Helen Gleason, University of Missouri; Determination of Objectives for Home Economics—Adelaide S. Baylor; The Project as a Basis for Teaching—Louise Stanley; The Home Project—Clare White, Supervisor of Home Economics. There was an exhibit and general discussion of illustrative material.

The Home Economics Department of Tho University of Missouri has moved this fall into its new Home Economics Building. This building has been planned on a unit basis and only the first section has been built. This portion provides adequate laboratory facilities for the department and is being equipped in the most up to date manner. The following laboratories are provided: 3 clothing laboratories, 3 laboratories for food preparation, 1 textile laboratory, 1 laboratory for food chemistry, 2 nutrition laboratories, and 1 experimental kitchen.

Jesse Cline of the University of Kansas has been added to the University faculty of Missouri, as Instructor in Home Economics Education. Mary Klingner, who taught in the University of Oxford last year, has been added to the staff as Instructor in Home Economics Education.

The Home Economics Practice House of the University of Arizona, has been redecorated and refurnished and has added a fully equipped nursery to provide for the two year old child who has become a part of the household. Training in child care will be included in the homemaking course.

Plans For Vitamine Research. Professor Eddy of the Department of Physiological Chemistry of Teachers College has completed plans for the pursuit of an interesting vitamine study on somewhat unusual lines during the coming year. An abundant source of the B vitamine has been provided in large quantities through the cooperation of the Corn Products Refining Company, together with the facilities of one of their large factories. Dr. R. R. Williams, formerly of the Bureau of Chemistry and now research chemist of the Western Electric Company, will be associated with Professor Eddy in the direction of the experiments. The Fleischman Yeast Company has given a fellowship to provide student assistance in the work. The plans contemplate the utilization and fractioning of large quantities of material to endeavor to secure the product in amounts which will permit of its identification.

The work will be carried out under the direction of Drs. Eddy and Williams, partly in the Corn Products factory, and partly in the college laboratories. The Department of Chemical Engineering will assist to provide large scale utensils for this purpose.

A New Food Forum. The Department of Foods and Cookery at Teachers College has been carrying on, for more than a year, a Food Forum for the New York City public school teachers, women's clubs, settlements, and other organizations. The material for the programs was obtained through the work of the members of the classes in Investigation Cookery, and Economics of the City Food Supply. After being carried out in the Teachers College laboratories as well as in coöperation with the New York Office of the Division of Foods and Markets of the New York State Department of Farms and Markets, the results were popularized.

Such studies as the following were presented: How many brands of cocoa, break-

fast cereal, or coffee does your retail grocer carry? Is the coöperative buying club a success in New York City? Is a Farmers' Market practical for the New York City housewife? What is the rôle played by the Push Cart Market? How can the housewife help the grocer to give her good service? What are the comparative merits of bulk and package groceries? How can the housewife become a more intelligent buyer of food? Some uneconomic buying habits—are any of them yours? Where do our fruits and vegetables come from? Milk powder for home use. How to substitute cocoa for chocolate in cooking. Powdered eggs in cookery. How do you freeze ice cream? How is bread sold in New York City?

The list of Forum members includes about five hundred active names. Three large meetings have been held. An exhibit was arranged at the spring meeting to illustrate the variation in price of bread per pound in New York City. At the third meeting held October 21, at Teachers College, the topic was "The Consumer's Responsibility Toward Problems of Weights and Measures."

Hot School Lunch. Of 36 undernourished children in one of the Mexican schools at Winslow, Ariz., 32 showed a gain at the end of a 3-months' test to demonstrate the benefits of a hot lunch at school. The home demonstration agent spent one week instructing two women each day in the preparation and serving of food, and in sanitary dishwashing. The project was then left under the supervision of the principal of the school, with the Mexican mothers to do the actual work. The school board was so impressed with the result that it voted to continue the work at any cost.

The school lunch work has led also to several improvements in the sanitation of the Mexican quarter of Winslow. The citizens arranged a clean-up day when yards, streets, and alleys were cleaned, garbage collected, and refuse burned, resulting in a greatly improved appearance throughout that section of the city.

Correlation of Cookery and the Lunch Room at the William Penn High School. With a total of 495 students of cookery, the lunch room offered excellent opportunities for work with foods in quantity. A number of foods with average retail prices, total cost $129.00, were requisitioned from the lunch room, prepared by the pupils in family quantities, and returned to the lunch room for serving. The pupils preparing the food could have portions at cost by ordering them one week in advance, or the teacher could use the school supplies for samples when she thought it wise to do so.

Luncheons were planned by the pupils, requisitioned from the lunch room, and then prepared and served by the girls in their practice dining room. The cost given is based on retail prices. To this cost was added twenty per cent, and the luncheon was served to ten teachers at thirty cents per plate. The pupils could also order the luncheon or any part of it. The luncheons were always prepared by twelve to sixteen girls for twenty or more people. Sample menus are: Tomato bouillon, toasted egg salad sandwiches, fruit cup, cookies, tea, coffee, or cocoa—total cost $3.65, prepared in 90 minutes; cream of pea soup, Waldorf salad, baking powder biscuit, cup custard, tea, coffee, cocoa, or milk—total cost $5.33, prepared in 90 minutes; cream of celery soup, tuna fish salad, muffins, butter balls, chocolate floating island, tea, coffee, cocoa, or milk—total cost $5.06, prepared in 90 minutes; fruit salad, cream cheese and nut sandwiches, frozen custard with hot chocolate sauce, tea, coffee, or cocoa—total cost $4.12, prepared in 45 minutes; potato salad, cream cheese and pepper sandwiches, strawberry ice cream, layer cake, coffee, milk, or cocoa—total cost $3.43, prepared in 45 minutes.

Summary of food costs

Two period classes	$129.01
Special luncheons	43.92
Total	$172.93

The Board of Education contributed $71.12 toward the cost.

ADAH Z. FISH.

Simmons College Endowment Fund Activities. The campaign of Simmons College is of general interest because of its unusual features. There is the Simmons Salvage Shop which has established a permanent headquarters in Boston, and sells all sorts of things made by the girls of the college, in addition to conducting a glorified rummage sale. Contributions come from all over the country—not from just the immediate neighborhood. During the summer the Salvage Shop took to the road, operating a little Shop on Wheels. A truck was fitted up as a shop and went out to neighboring cities where it sold sport hats and dresses, handkerchiefs, jams, pickles, furniture polish, and countless other useful things.

If you have not seen a Sally Simmons doll you do not know how kitchen necessities can be put together in an original and salable form. But it is possible!

The Zona Gale Scholarship. A unique experiment in scholarships has just been undertaken by the University of Wisconsin.

The New York City branch of the Alumni Association of the University of Wisconsin has established an annual scholarship of the value of $700, known as the "Zona Gale Scholarship"—named in honor of a distinguished graduate of the university—to be awarded to a student who has shown that he possesses special talent of unusually high order, and who wishes to spend all his time in developing his special talent. The holder of the scholarship will not be required to satisfy the regular entrance requirements, if he is deficient therein, nor will he be a candidate for a university degree. Nominations for the scholarship may be made to the registrar of the university. To receive consideration the nomination must be accompanied by evidence that the candidate possesses unusual original talent, and that he would be able to utilize the advantages offered by the university for the development of the talent. There are no restrictions in respect to age, sex, or race.

The next annual convention of the **National Society For Vocational Education** will be held in Kansas City, January 5 to 7, 1922. Thursday and Friday will be devoted to the following section meetings: Agricultural Education, Industrial Education, Commercial Education, Homemaking Education, Part-time and Continuation Schools, Training in Industry, Industrial Rehabilitation, and Teacher Training. General meetings will be held Thursday evening and Saturday morning.

The Vocational Education Association of the Middle West will meet in Milwaukee, Wisconsin, January 11–14, 1922.

The United States Civil Service Commission announces an open competitive examination for domestic science teachers in the Indian Service, December 7, 1921, and January 18, 1922.

NOTES

Dr. Alice Blood of Simmons College has been asked to give a series of lectures before the Division of Industrial Hygiene, of the Harvard Medical School, on The Relation of the Industrial Physician and Nurse to the Nutrition Problems of the Worker.

Caroline L. Hunt of the Office of Home Economics, United States Department of Agriculture, has returned from England where she attended a school for organizers of Womens' Institutes at Cambridge.

Kate Bear, A. M. Teachers College, has succeeded Beulah I. Coon, as State Supervisor of Home Economics in Arizona.

Gail Burfield of Montevallo, Alabama, has been appointed Assistant in Teacher Training in Home Economics, University of Arizona. She will have charge of the classes in the city schools where the senior home economics students of the University do their supervised teaching.

The Office of Extension Work, North and West, and the Office of Extension Work, South, have been consolidated into one office, with Dr. C. B. Smith, formerly Chief of the Office of Extension Work, North and West, as Chief.

INDEX TO VOLUME XIII

A

Accounting: *See* Budget
Adult woman's challenge to the h. e. teacher, 193
Adulterants: *See* Standards
After-the-war economic food problems, 1
ALLAN, EVELYN W. H.e. in a girls' commercial high school, 145
American Dietetic Assn.: Annual meeting,* 381, 527
American extension methods in France,* 288
American food research institute,* 335
American Home Economics Association Meetings: Atlantic City, 48*, 96, (Ed.) 181; Swampscott, 192*, 240*, (Ed.) 272; proceedings, 385–482
Americanization: *See* Social Work
Annual Meeting: *See* A.H.E.A. Meetings
ANSELL, E. H. The industrial cafeteria, 452
APPLETON, VIVIA. Observations on diet in Labrador, 199; Spruce beer as an antiscorbutic, 605
ARMS, JESSIE RICH. A brief history of a child who has never been ill, 175

B

Bacon's experiment on preserving meat with cold, 612
BAILEY, ILENA M. A survey of farm homes, 346
BAIRD, RUTH. Lard and lard substitutes, 549
BAKER, ALICE E. The Roland Park community kitchen, 35
BARBER, EDITH M. The Syracuse home bureau, 512
Bevier, Isabel, (Ed.) 371; Frontispiece (Aug.); H.e. at Illinois, 337
Bibliography of H. E.: 44, 92, 142, 186, 237, 333, 379, 568, 620
BIESTER, ALICE. Studies on the effect of storage on canned vegetables, 494
BIGELOW, ZELLA. The place of textiles in the high school clothing course, 432
BIRDSEYE, MIRIAM. Plans for textile research under the National Research Council, 400
BLUNT, KATHARINE. The present status of vitamines, 97
Bobbins and pins, 607
Book Reviews:
A.B.C. of exhibit planning, 89
A.R.C. course in food selection, 331
Art of spending, 376
Bibliography on the nutritive value of corn, 92
Breakfasts, luncheons, and dinners 378,
Catalog of literature for advisers of young women and girls, 568
Chemistry for public health students, 282
Community health problems, 331
Conservation of textiles, 378
Dehydrating foods, fruits, vegetables, fish, and meats, 379
Elementary home economics, 235
Five short h.e. plays, 379
Food and life, 332
Food facts for the homemaker, 90
Furniture for small houses, 90
H.e. in American schools, 281
Household arts for home and school, 522
Household budget, 376
Household chemistry, 566
Insects and human welfare, 333
Laboratory course in physics of the household, 91

Note: A star indicates news.

Abbreviations used are: Ed. = Editorial; h.e. = home economics; O. F. = Open Forum; Q. B. = Question Box.

Ladies of Grecourt, 92
Linen, 523
Margarin, 567
More recipes for fifty, 378
Nation's food, The, 235
Nervous housewife, The, 332
Nursery school, The, 377
Nursery school education, 377
Nutrition and clinical dietetics, 565
Nutrition bibliography, 567
Sheila and others, 282
Social case history, 523
Standards of living, 375
Story of milk, 185
Students' manual of fashion drawing, 186
Successful family life on a moderate income, 332
Textbook of chemistry for nurses and students of h.e., 141
Traveling publicity campaigns, 89
Vitamines—essential food factors, 521
Vocational education, 281
Vocational education, 522
Vocational homemaking education, 567
Weekly allowance book, 376

Botulism: Botulism and home canning, 261; Sanitation in food preservation, 297. *See also* Canning and Preserving

Boys' and Girls' Club Work: *See* Extension Work

BREITHUT, FREDERICK. The present dye situation, 395

BRIDGE, S. HELEN. Training girls as consumers, 246

Brief history of a child who has never been ill, 175

British research assns.,* 95

Budget: Practical budget accounting, 75; Visualizing your financial trend, 531. *See also* Study and Teaching

BURRITT, BAILEY B. The place of the nutrition worker in the health program, 579

Business and professional women's club,* 623

Business meeting (A.H.E.A.), 465

C

Cafeteria: As a h.e. project, 54; In a department store, 356; Industrial cafeteria, 452; Red cross,* 576. *See also* Institutional Management

Canning and Preserving: Bacterial flora of home canned vegetables, 448; Botulism and home canning, 261; Effect of storage on canned vegetables, 494; Preserving milk (Q.B.), 87; Sanitation in food preservation, 297

CARVIN, FLORENCE. My four years as home demonstration agent, 543

CATON, FLORENCE. The hygiene of women's underwear, 252

Ceramic research,* 191

CHILD, GEORGIE BOYNTON. The eight-hour day in operation, 132

Child health demonstration,* 576

Child hygiene course,* 192

Children: Child health demonstration,* 576; Child hygiene course,* 192; Child who has never been ill, 175; Height weight standards,* 192; Institute of child hygiene,* 288; Red Cross nutrition program, 536; Standards of child nutrition, (Ed.) 517. *See also* Nutrition; Social Work

Choosing a washing machine, 370

Cincinnati health exposition,* 529

Civil service examination,* 192, 626

Classicist and Romanticist, 217

Clean restaurants, 82

Cliff dweller's bread, 296

Clinics: *See* Children; nutrition

Clothing and Textiles: Bobbins and pins, 607; Clothing purchasing habits, 600; Conference of clothing specialists, 45*, 119; Extension work in clothing, 434; Furs, 40; High school clothes line, 169; Home interiors (committee report), 541; Hosiery guide for the shopper, 368; Hygiene of women's underwear, 252; Plans for textile research, 400; Practical textiles in high schools, 342; Present dye situation, 395; Revival of household spinning, 225; Simple hand loom, 227; Tests in teaching textiles, 483; Textile laboratory and mercantile world, 13; Textile Section meeting, 430–437, 473; Textiles in the high school clothing course, 432; Training the textile chemist, 430; Unselfishness in clothing class, (O. F.) 519. *See also* Study and Teaching

Clubs: *See* Extension Work

Community: *See* Cooperation; Extension Work; Social Work

Conference of Assn. of Teachers of Domestic Science (England),* 382
Conference of extension specialists in clothing, 45,* 119
Conference of specialists in health and nutrition,* 578
Conservation: Natural gas, 369; Some don'ts for the consumer of gas, 80. *See also* Economics
Constantinople College for Girls:* Chair in h. e., 45; Constantinople Fund, 286; Mrs. Norton's work, 571.
Constitution of the A. H. E. A., 477
Contribution of European experience on low diets to our teaching of dietetics, 49, 157
Cookery: American cookery, 506; Baking powders, (Q.B.) 374; Cooking green vegetables, (Ed.) 372; Effect of cooking foods in pressure cooker, 446; Emulsification in mayonnaise, 447; High temperature, (Q. B.) 374; Jellied grapefruit peel or orange peel, 366; Lard and lard substitutes in pastry making, 549; Making doughnuts of low fat absorption, 255, 309; Pressure cooker, (Q. B.) 374; Research cookery, 442; Sautéing, (Q. B.) 374; Use of pressure cooker in home, 361; Vinegar in frying, (Q. B.) 374. *See also* Food Values
Cookery courses for men,* 530
Cooperative: Choosing a washing machine, 370; Community kitchens, 33, 35; Cooperative enterprises, (Ed.) 43; Cooperative research, 444; Feeding men in training, (O. F.) 373; Lumber camps, 241; Meat marketing, 39; Stunts of h.e. workers, 204; Syracuse home bureau, 512; Textile laboratory and mercantile world, 13. *See also* Institutional Management; Social Work
Cooperative research on mayonnaise,* 577
Cooperative service between the textile laboratory and the mercantile world, 13
Cost of Living: *See* Budget; Economics; Thrift
Council meetings (A. H. E. A.), 454
Course in homemaking adjustments in social work,* 189
Courses of study: *See* Study and Teaching

D

D. A. R.,* 383
Davenport, Eugene. H.e. at Illinois, 337
Davis, Michael M., Jr. The food of the immigrant in relation to health, 19, 66
Dedication of women's dormitory at Mass. Agr. College,* 46
Denny Grace. Cooperative service between the textile laboratory and the mercantile world, 13; Practical teaching of textiles in high schools, 342
Denton, Minna C. Botulism and home canning, 261; Experiments in the making of doughnuts of low fat absorption, 255, 309; Gastric response to foods, 26, 58; Lards and lard substitutes in household pastry making, 549; Use of the pressure cooker in the home, 361
Dickson, Ernest. Botulism, 263
Diet: Diet in diseases of metabolism, 213; European experience on low diets, 49, 157; Feeding problems in lumber camps, 241; Gastric response to foods, 26, 58; High fat in diabetic diets, (Ed.) 515; Jewish diet, (O.F.) 279; Observations on diet in Labrador, 199; Thrice boiled vegetables for diabetic patients, (Ed.) 516. *See also* Cookery, Food Values; Nutrition; Social Work
Dietetics: See Amer. Dietetic Assn.; Diet; Food Values
Digestion: *See* Diet
Dodge, Bernice Frances. The high school cafeteria as a h.e. project, 54
Domestic Art: *See* Clothing and Textiles
Domestic Service: Eight-hour day in operation, 132
Donham, S. Agnes. Home service in Boston banks, 440
Dresser, Mrs. Horatio. The food economy kitchen and its value in the community, 33
Dye situation, 395

E

Eastern Ky. state normal school,* 192
Eastern states exhibition,* 577
Economics: After-the-war economic food problems, 1; Feeding our cities, 610; Food standards and prices, 219, 317;

Sociology and economics, (O.F.) 562. *See also* Thrift
EDDY, WALTER H. Cooperative research in colleges, 444
Editorial: Atlantic City meeting, 181; Bevier, Isabel, 371; Bread—standard loaf, 615; Calcium in American diet, 231; Calcium salts of heated milk, 182; Call to service, 229; Classified advertising, 83; Correction, 560; Cooking green vegetables, 372; Cooperative enterprises, 43; Gram of radium for Madame Curie, 230; High fat in diabetic diets, 515; International Congress, 42, 137, 230, 613; MacKay, Catherine, 559; New editor, 230; Nuts for our proteins, 232; Sheppard-Towner Bill, 83; Standards of Child Nutrition, 517; Standardized weights and measures, 614; Successful family life on a moderate income, 327; Swampscott meeting, 272; Thrice boiled vegetables, 516; Whole wheat versus white bread, 561; Will you help, 514
Education: *See* Study and Teaching
Effect of processes on the vitamine content of food, 389
Eight-hour day in operation, 132
Ellen Richards research prize,* 529
Equipment: Choosing a washing machine, 370; Pressure cooker, 361; Proper height of kitchen table, (O.F.) 183
Eugenics conference,* 623
Experiment in saving steps,* 575
Experiment in teaching health, 489
Experiments in the making of doughnuts of low fat absorption, 255, 309
Extension Work: Conference of clothing specialists, 45*, 119, Development of home demonstration work, 415; Extension Section meeting, 415, 474; Extensionized farm woman, 302, (O.F.) 329; Four years as home demonstration agent, 543; Girls' club work, 417; H.e. in rural Belgium, 31; Home demonstration work, 408, 420; More facts about the farm woman, 81; Office of extension work,*626; Recommendations of committee on extension needs, 422; Recruiting extension workers, 412; Relation of boys' and girls' club work to the rural home and community, 207; Specialists,* 577; State leaders,* 577; Survey of farm homes, 346; Syracuse home bureau, 512. *See also* Social Work
Extensionized farm woman, 302; (O.F.) 329

F

Farm and home bureaus,* 384
Feeding our cities, 610
Feeding problems in the lumber camps of the northwest, 241
Fellowships: Univ. of Chicago,* 47, 189; Women's Educ. and Indus. Union,* 189
FERRIS, HELEN. Popularizing food facts in a department store lunch room, 356
Fess Amendment: *See* Legislation
Fla. State College,* 529
Food economy kitchen and its value in the community, 33
Food forum,* 624
Food of the immigrant in relation to health, 19, 66
Food Selection: *See* Food Values
Food Values: After-the-war economic food problems, 1; Boiled milk, (Q.B.) 233; Calcium in American diet, (Ed.) 231; Calcium salts of heated milk, (Ed.) 182; Cooking green vegetables, (Ed.) 372; Effect of processes on vitamine content of food, 389; Gelatine, (Q.B.) 564; Nuts for proteins, (Ed.) 232; Practical problem in dietetics, 501; Present status of vitamines, 97; Spruce beer as an antiscorbutic, 605; Vitamine research,* 624; Whole wheat versus white bread, (Ed.) 561. *See also* Cookery; Diet; Nutrition
Foreign: *See* H.E. Abroad; Social Work
Four years as demonstration agent, 543
Fuel: Some don't's for the consumer of gas, 80
Furs, 40
Further data on purchasing habits, 600

G

Gastric response to foods, 26, 58
GEARY, BLANCHE. Housing for business and professional women, 449
GIBBS, WINIFRED S. Stunts of h.e. workers, 204
GILBERT, ANNA. The extensionized farm woman, 302

GODFREY, ROSALIE. Lard and lard substitutes, 549
GOODSPEED, HELEN C. The school project, 250
GREENE, Mrs. FLORA HARTLEY. The adult woman's challenge to the h.e. teacher, 193

H

HARCUM, CORNELIA. The Roman kitchen, 507
HARRIS, CARA. Teaching foods in rural schools, 426
Harvard Univ.,* 336
Health: Clean restaurants, 82; Sanitation in food preservation, 297; Teaching health, 489. *See also* Nutrition; Social Work
Hearing on h.e. amendment, 121
Height weight standards,* 192
Helping the housewife, (O.F.) 518
HESS, ADAH. Informal tests in teaching textiles and clothing, 483
High school cafeteria as a h.e. project, 54
High school clothes line, 169
Home bureau, 512
Home demonstration work, 408
H.E. Abroad: Australia,* 48, 95; Belgium, 31; Constantinople College,* 45, 286, 571; England,* 382; France,* 288, 382; Labrador, 199; New Zealand,* 48. *See also* International Congress and International Conference
H.e. at Illinois, 337
H.E. Clubs: Kentucky State Normal School,* 192; Schenectady high school,* 192; Stephens Jr. College,* 383
H.e. in a girls' commercial high school, 145
H.E. Section Mo. State Teachers Assn.,* 624
H.e. teaching in rural Belgium, 31
Home project as a method of teaching h.e., 592
Home service departments in banks, 405, 439
Hosiery guide for the shopper, 368
Hot school lunch,* 625
Household arts exhibit,* 47
Household arts for junior high schools, 289
Household Management: Eight-hour day in operation, 132; Experiment in saving steps,* 575; Method of collecting data on home, (O.F.) 280; Responsibilities of the homemaker, 227
Housekeeping under Charles II, 316
Hygiene: *See* Health; Clothing and Textiles
Hygiene of women's underwear, 252

I

Informal tests in teaching textiles and clothing, 483
Institute for training nutrition workers,* 240
Institute of child hygiene and nutrition,* 288
Institutional Management: Department store lunch room, 356; Feeding problems in lumber camps, 241; High school cafeteria, 54; Housing for business and professional women, 449; Industrial cafeteria, 452; Institution Section meeting, 449, 474; Opportunities for women in institutional administration, 402; Opportunities for women in the modern hotel, 151. *See also* Cooperative
Interiors, Report of committee on home, 541
International conference on child welfare,* 336
International congress of eugenics,* 623
International congress of h.e., (Ed.) 42, 137, 230, 574,* (Ed.) 613
International h.e.: *See* H.E. Abroad
Iowa H.E. Assn.,* 47

J

Jellied grapefruit peel or orange peel, 306
JORDAN, EDWIN O. Sanitation in food preservation, 297

K

KAHN, MAX. Problems of the dietitian in the care of out-patient poor suffering from diseases of metabolism, 213
KAISER, JOHN BOYNTON. Visualizing your financial trend, 531
Kansas State Agr. College,* 383
KAUFFMAN, TREVA. The home project as a method of teaching h.e., 592
KELLY, JOHN H., Jr. A suggestion on cooperative meat marketing, 39
Kitchens: Community, 33, 35, 512; Roman, 507
KNAPP, WINIFRED. Studies on the effect of storage on canned vegetables, 494

KOEHNE, MARTHA. A practical problem in dietetics, 501

L

LANG, HAROLD. Bacterial flora of home canned vegetables, 448
Lards and lard substitutes in household pastry making. 549
LE BOSQUET, MAURICE. Practical budget accounting, 75
Legislation: Fess h.e. amendment, 288*, 305, 360; H.e. amendment to vocational education act, 121; Sheppard-Towner bill (Ed.), 83
LINDSLEY, MARY A. Opportunities in institutional administration, 402
London continuation schools,* 382
Lunch room at William Penn high school,* 625
Luncheon: *See* Cafeteria; School Lunch

M

MacKay, Catherine J., (Ed.) 559; frontispiece (Nov.)
MACLEOD, SARAH J. The h.e. bureau, 439
Malnutrition: *See* Children; Nutrition
Marketing: Cooperative meat marketing, 39; Feeding our cities, 610
MARTIN, O. B. Home demonstration work, 408
Mary Gay Theater,* 384
Meetings: *See* under names of assns.
Menus: *See* Food Values
Merrill-Palmer School, 545
MILLER, ELLEN. A hosiery guide for the shopper, 368; Problems in continuation classes, 427
MILNE, AGNES DEVOE. Bobbins and pins, 607
MONROE, DAY. Research cookery, 442
Montana H.E. Assn.,* 383
More facts about the farm woman, 81
MORGAN, AGNES FAY. The contribution of European experience on low diets to our teaching of dietetics, 49, 157; Physical and biological chemistry in the service of h.e., 586; The responsibility of the consumer for food standards and prices, 219, 317
MUDGE, GERTRUDE. Red Cross nutrition program in N. Y. City, 536
MUELLER, JESSIE ROTHGEB. Feeding problems in the lumber camps of the northwest, 241
MURLIN, JOHN R. The need of further investigation of the effect of commercial and household processes on the vitamine content of food, 389

N

National academy of sciences,* 286
National advisory committee on foods and nutrition,* 381
National Research Council,* 95
National Soc. for Voc. Educ.,* 626
Natural gas, 369
Near East Relief orphanage,* 382
New England H.E. Assn.,* 143, 190, 287, 336, 623
New Fifth Ave. Hospital,* 383
N. Y. Nutrition Council, 190,* 492
N. Y. Society of Craftsmen,* 288
N. Y. H. E. Assn.,* 577
News Notes (Other news items are starred throughout the index): Bear, Kate, 626; Bevier, Isabel, 578; Blood, Alice, 626; Breckinridge, S. P., 240; Briggs, Rosa, 530; Burfield, Gail, 626; Dunning, Frances, 530; Francis, Emma, 578; Green, Helen, 578; Guillet, Mrs. Alma, 530; Hadley, Geraldine, 48; Hayes, Maud, 144; Hunt, Caroline, 626; Kauffman, Treva, 48; Kirk, Elsie, 530; Lanman, Faith, 48; Lindsley, Mary, 384; Little, Mabel, 530; Moving picture films, 336; National woman's party, 336; Noble, Mollie, 48; Norton, Mrs. Alice, 571; Orr, Flora, 144; Pittsburgh Urban League, 95; Pleasants, Bessie, 530; Roberts, Mollie, 48; Strong, Ann G., 240; Sweeny, Mary E., 144; Sydney Tech. College, 95; Thomas, John M., 240; Turner, Louise, 48; Van Meter, Anna, 48; Vocational Educ. Assn., 48; Vocational Education at Teachers College, 48; Wheeler, Ruth, 384; Winchell, Jessie, 530; Winslow, Emma, 530; Zuill, Frances, 144
Nutrition: Basal metabolism, 446; Institute for training nutrition workers, 240; N. Y. Nutrition Council, 190,* 492; Nutrition classes for children,*

574; Nutrition worker in the health program, 579; Red Cross nutrition program, 536; Standards of child nutrition, (Ed.) 517. *See also* Children; Diet; Food Values
Nutrition and health classes for children,* 574

O

Observations on diet in Labrador, 199
Office of Extension Work,* 95, 626
Open Forum: Developing unselfishness in clothing class, 519; Extensionized farm woman, 329; Helping the housewife, 518; Jewish dietaries, 279; Method of collecting data on the home, 280; Piece of h.e. work, 373; Proper height of kitchen table, 183; Scientific writing, 616; Sociology and economics, 562, Students' time record, 85; Supply of h.e. teachers, 84; Teaching budgets 84
Opportunities for women in the modern hotel, 151
Opportunities in H.E.: Banks, 405; Commercial world, 204; Hotels, 151; Institutional administration, 402; Lumber camps, 241; Revival of spinning, 225; Some opportunities in h.e.,* 335
Opportunities in institutional administration, 402
Oregon Agr. College,* 239, 285

P

Pageant of progress exposition,* 335
Pamphlets received, 236, 283, 619
Penn. State College,* 530
PHELPS, ETHEL L. Further data on purchasing habits, 600
PHILLIPS, VELMA. An experiment in teaching health, 489
Physical and biological chemistry in service of h.e., 586
Place of the nutrition worker in the health program, 579
Plans for textile research, 400
Plans for vitamine research,* 624
Plea for American cookery, 506
Popularizing food facts in a department store lunch room, 356
Positions: *See* Opportunities in H.E.
Practical budget accounting, 75
Practical problem in dietetics, 501
Practical teaching of textiles in high schools, 342
Practice house,* 624
Pratt Institute,* 239
Present dye situation, 395
Present status of vitamines, 97
President's address, 385
PRITCHETT, LOUISE B. Experiments in making doughnuts of low fat absorption, 255, 309
Problems of the dietitian in the care of outpatient poor suffering from diseases of metabolism, 213
Project: *See* Study and Teaching
Project in demonstration cookery,* 577

Q

Question Box: Beefsteak, 374; Boiled milk, 233; Gelatine, 564; Ice cream 233; Matzoon, 87; Phosphate baking powder, 374; Preserving milk, 87; Pressure cookery, 374; Swiss chard, 88; Table service in normal school, 618; Vinegar in frying doughnuts, 374
Quotations (not otherwise listed): Citrus by-products, 367; Ice cream, 513, Table napkins in history, 506

R

Ration: *See* Diet
Reaching the public at a state fair, 46*
Recruiting extension workers, 412
Red Cross cafeteria,* 576
Red Cross nutrition program, 536
Relation of boys' and girls' club work to the rural home and community, 207
Report of committee on home interiors, 541
Report of regional organization committee, 599
Report of social service committee, 596
Research: Amer. food research institute,* 335; British research assns.,* 95; Ceramic,* 191; Mayonnaise,* 577; Practical Arts, 444; Research work in U. S., 449; Teachers College,* 529, 577; Vitamines,* 624. *See also* Clothing and Textiles; Cookery; Study and Teaching
Research work at Teachers College,* 529
Responsibilities of the homemaker, 227
Responsibility of the consumer for food standards and prices, 219, 317

Revival of household spinning, 225
Roland Park community kitchen, 35
Roman kitchen, 507
Rural Work: *See* Extension Work; Study and Teaching
Russell Sage College,* 240

S

Salaries of h.e. workers,* 383
Sanitation: *See* Health
Sanitation in food preservation, 297
Scholarship, Zona Gale, 626
School: *See* Study and Teaching
School for hotel workers (France),* 382
School Lunch: Arizona,* 625; High school cafeteria, 54; Wm. Penn high school,* 625. *See also* Study and Teaching
School project, 250
SCHUMAKER, DORIS. Extension work in clothing, 434
Science Section meeting, 442, 474
Science service,* 335
Service: *See* Domestic Service
Sewing: *See* Clothing and Textiles
Sheppard-Towner Bill: *See* Legislation
SHERMAN, CAROLINE B. Feeding our cities, 610
Simmons College,* 577, 626
Simple hand loom, 227
SMITH, MARGERY. A social point of view, 438
SNEDDEN, DAVID. Household arts for junior high schools, 289
SNYDER, MELISSA F. A survey of farm homes, 346
Social Work: Diet for out-patient poor in diseases of metabolism, 213; Food economy kitchen, 33; Food of the immigrant in relation to health, 19, 66; Housing for business and professional women, 402, 449; Industrial cafeteria, 452; Observations on diet in Labrador, 199; Social point of view, 438; Social Service Committee meeting, 438; Social Service Committee report, 596. *See also* Extension Work; Nutrition
Sociology and economics, (O.F.) 562
Some don't's for the consumer of gas, 80
Southern H.E. Assn.,* 288
Sovereign states and the Fess h.e. amendment, 305
Special instruction in homemaking,* 240
Specialists in extension work,* 577
Spruce beer as an antiscorbutic, 605
Standards: Food standards and prices, 219, 317; Height weight standards,* 192; Standard loaf of bread, (Ed.) 615; Standards of child nutrition, 517; Weights and measures, (Ed.) 614
STANLEY, LOUISE. The sovereign states and the Fess h.e. amendment, 305
State College, Brookings, S.D.,* 287
State leaders in extension work,* 577
STORER, AMY. Red Cross nutrition program in N. Y. City, 536
Studies on the effect of storage on canned vegetables, 494
Study and Teaching: Adult woman's challenge to h.e. teacher, 193; Committee on teaching meeting, 424; Continuation classes, 427; Cooperative research, 444; Coordinating instruction with home experience, 424; Correlating cookery and lunch room,* 625; H.e. at Illinois, 337; H.e. in a girls' commercial high school, 145; High school cafeteria as a project, 54; High school clothes line, 169; Home project, 592; Household Arts for junior high schools, 289; Merrill-Palmer School, 545; Physical and biological chemistry in service of h.e., 586; Practical problem in dietetics, 501; Practical textiles in high schools, 342; School project, 250; Students time record, (O.F.) 85; Supply of h.e. teachers, (O.F.) 84; Teaching budgets in grades and high school (O.F.), 84; Teaching foods in rural schools, 426; Teaching health, 489; Tests in teaching textiles, 483; Textile laboratory and mercantile world, 13; Training girls as consumers, 246; Utility in education, 150
Stunts of h.e. workers, 204
Suggestion on cooperative meat marketing, 39
Summer meetings of home demonstration agents and farm people,* 578
Survey of farm homes, 346
SWEENY, MARY E. President's address, 385
Syracuse home bureau, 512

T

Table service in normal schools, (Q.B.) 618
TAYLOR, ALONZO E. After-the-war economic food problems, 1
Tea, 127, 177, 267
Teachers College, Columbia Univ.,* 48, 288, 336, 529, 577, 624
Teachers of vocational h.e. (Mo.),* 624
Teaching: *See* Study and Teaching
Tests: *See* Study and Teaching
Textiles: *See* Clothing and Textiles
Thanksgiving dinners (in Colonial days), 557
THOM, CHARLES. Botulism and its relation to canned food, 264
Thrift: Committee on Thrift meeting, 439; Home economics bureau, 439, Home service departments in banks, 405, 439, 440; Thrift kitchen, 512. *See also* Budget
Training girls as consumers, 246
TRILLING, MABEL B. Informal tests in teaching textiles and clothing, 483
Turkish coffee, 558

U

U. S. Dept. Agr. Buls., and articles published elsewhere, 524
Univ. of Ariz.,* 624
Univ. of Chicago,* 47, 189
Univ. of Fla.,* 239
Univ. of Illinois,* 530
Univ. of Iowa,* 288
Univ. of Kansas,* 530
Univ. of Mo.,* 624
Univ. of Va.,* 240
Univ. of Washington,* 529
Univ. of Wis. summer courses,* 189
Use of the pressure cooker in the home, 361
USHER, SUSANNAH. Tea, 127, 177, 267
Utility in education, 150

V

Visualizing your financial trend, 531
Vitamines: *See* Food Values
Vocational Education: *See* Study and Teaching
Voc. Educ. Assn. of Mid. West,* 626

W

WANG, CHI CHE. The present status of vitamines, 97
WARREN, GERTRUDE. Relation of boys' and girls' club work to the rural home and community, 207
Washington H.E. Assn.,* 47
Washington (D. C.) H.E. Assn.,* 144
WEIGLEY, MILDRED. Responsibilities of the homemaker, 227; Studies on the effect of storage on canned vegetables, 494
WEIRICK, ELIZABETH. How can schools of h.e. aid in training the textile chemist, 430
Western Arts Assn.,* 192
WHITE, EDNA. The Merrill-Palmer School, 545
WILLARD, JOHN D. Recruiting extension workers, 412
WILLIAMSON, MARGARET. A revival of household spinning, 225
WINCHELL, FLORENCE. Report of committee on home interiors, 541
WOOD, BERTHA M. The food of the immigrant in relation to health, 19, 66
WOODWORTH, LEO DAY. Home service department in banks, 405

Y

YEATMAN, FANNY W. Jellied grapefruit peel or orange peel, 366; Lard and lard substitutes, 549

Z

Zona Gale scholarship,* 626